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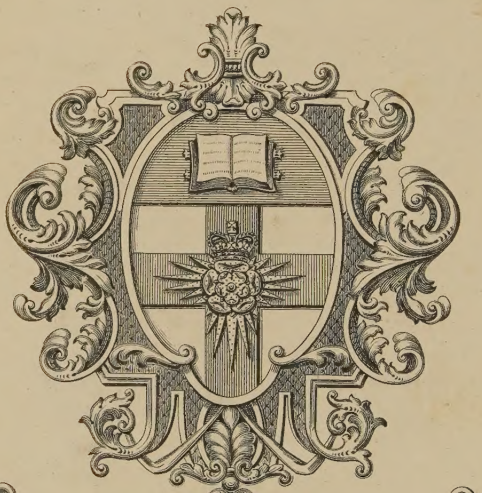

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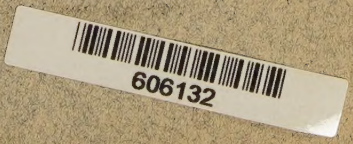
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REPORTS

FROM

COMMISSIONERS:

TWENTY-FOUR VOLUMES.

—(15—PART III.)—

PARIS EXHIBITION.

VOLS. V. and VI.

Session

19 *November* 1867 —— 31 *July* 1868.

VOL. XXX.—PART III.

REPORTS FROM COMMISSIONERS:

1867-8.

TWENTY-FOUR VOLUMES:—CONTENTS OF THE

FIFTEENTH VOLUME.—PART III.

N. B.—*THE* Figures *at the* beginning of the line, *correspond with the* N° *at the foot of each* Report; *and the* Figures *at the* end of the line, *refer to the* MS. Paging of the Volumes presented to The House of C

PARIS EXHIBITION:

[3968–IV.] Vol. V. REPORTS on Products and Apparatus of Forestry, Shooting, Fishing, and Agriculture; Chemical Processes and Products; Sewing Machines; Carriages and Harness; Horses and Horse-Shoeing; Cattle; Useful Insects; Horticulture - - - - p. 1

[3969.] Vol. VI. RETURNS relative to the New Order of Reward 311

REPORTS

ON THE

PARIS UNIVERSAL EXHIBITION, 1867.

VOL. V.

CONTAINING REPORTS ON

PRODUCTS AND APPARATUS OF FORESTRY, SHOOTING, FISHING, AND AGRICULTURE.
CHEMICAL PROCESSES AND PRODUCTS.
SEWING MACHINES.
CARRIAGES AND HARNESS.
HORSES AND HORSE SHOEING.
CATTLE.
USEFUL INSECTS.
HORTICULTURE.

Presented to both Houses of Parliament by Command of Her Majesty.

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PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

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INTRODUCTION.

THE following Reports on the various Classes in the Paris Exhibition, 1867, were prepared for the Science and Art Department in accordance with the directions of the Lords of the Committee of Council on Education, and must not be confounded with the International Jury Reports to be issued by the French Government, which are quite distinct.

The scope and object of these Reports will be gathered from the following extracts from the letter to the gentlemen who were requested to prepare them, and who in many cases were not connected with the International Jury:—

"The Lord President of the Council, following the precedent of the Paris Exhibition of 1855, is desirous of obtaining a series of Reports on the objects exhibited in the Paris Exhibition of this year. . . ."

"The special object of this Report is to direct the attention of British visitors, manufacturers, and others, to the useful novelties exhibited by various nations on the present occasion, to which it appears desirable their attention should be called. It is not intended to be an exhaustive Report upon the class, which it is presumed will be made by the International Juries for the Imperial Commission. The British Report should have special reference to the objects exhibited by the British Colonies and by Foreign countries, rather than those exhibited by the United Kingdom, although the latter should not be overlooked."

"It is desirable that the Report should be as short as may be consistent with the nature of the subject, and it is absolutely necessary that it should be published during the Exhibition. It will therefore be indispensable that if the Report be undertaken by you, the manuscript should be delivered before the 15th of June at latest, and as much earlier as may be possible, to Captain Donnelly, R.E., the Secretary to the British Juries, who will afford all necessary information in Paris, and will act as Editor to the Reports."

"It is probable that the Exhibition will be sufficiently arranged to enable an examination of the Class to be commenced about the 15th April."

With the view of rendering these Reports useful to the public while the Exhibition lasted it was determined to publish them in a newspaper as quickly as possible. Arrangements having been made with the manager of the *Illustrated London News*, who undertook to produce them free of all cost to the Science and Art Department with a certain amount of illustration, the publication commenced on the 6th July 1867, and continued till the 7th December. By that time about two-thirds of the Reports had been published. These have been revised by the authors, and with the unpublished ones are complete in these volumes.

In arranging the Reports the order of the French classification has not been implicitly followed. The amount of matter rendering the division into four volumes desirable, those reports were brought together in each volume which appeared most allied to one another, an arrangement dictated as much by what seemed likely to be to the convenience of purchasers of single volumes as by any idea of a scientific classification.

REPORTS.

Report on the Products of Forest Cultivation.—(Class 41.)—By P. L. Simmonds, Esq.

Mr. Simmonds on Forestry.

The products embraced in this Class take in a wide range, and include not only the specimens of various trees and the applications of their wood for cabinet and carpenters' work, shipbuilding, and turning, staves for casks, and shingles for roofing, the barks for textile purposes, for tanning and dyeing, cork, &c.; but also the uses of the leaves, gums, and resins, &c., and the charcoal and dried wood for fuel, ashes, basketwork, platting, &c. The principal riches of many countries depend in fact upon their forest products—products the great importance of which cannot be questioned.

"En effet (dit Schacht) de quelque côté que nous dirigons nos regards, ils tombent sur les produits forestiers; nos habitations, nos vaisseaux, et nos chemins de fer, voire même nos mines, ne pourraient être, s'il n'existait pas de forêt. Sans combustibles, nous serions accablés par les froids de l'hiver; la plupart des aliments, demandant à être préparés sur le feu, ne nous seraient d'aucune utilité; la force de la vapeur nous serait inconnue, et elle ne nous transporterait pas à travers les continents et les mers, si la forêt ne nous donnait ou ne nous avait donné tout cela."

Woods.

It will, of course, be impossible to do more than give a mere outline sketch of the most important exhibits. Compared with former Exhibitions, the collection of woods shown is very large and important, although from the size of the building, and the greater number of foreign countries exhibiting, several of the collections are exposed in out-of-the-way corners and places, either in the building or the park, where they were not easily to be found. Some of the larger wood-producing countries, such as the United States, New Brunswick, Tasmania, New Zealand, Vancouver Island, &c., either did not exhibit at all or sent but little. This deficiency, however, is more than compensated by the large collections sent on this occasion from the Central and South American States, by many European countries, and several of our own colonies.

In commencing our examination we will begin with the country which has originated this great International Exhibition, certainly one of the finest that has yet been held.

Mr. Simmonds on Forestry.

France.

France makes a creditable display of its forest products in the raw material gallery, close to the grand entrance which divides the French portion from England. A very interesting sketch of the woodlands and forest products of France, accompanied by full details and statistics by M. E. de Gayffier, was given in the first edition of the French General Catalogue as the introduction to this Class. It is too long to quote entire, but it may be briefly condensed, as the statistical and descriptive notices heading the classes were withdrawn in the second edition in order to reduce the size of the volume.

There are nearly 27,000,000 acres of woodland in France, the principal forests being in the north, east, and centre of the empire, in each of which districts there about 160,000 acres. The south and west are not so well timbered. The annual production is about 20,000,000 cubic metres of wood, of which 18,000,000 are used for firewood; but the home supply is quite insufficient for the demand, and large supplies have to be drawn from Norway, Russia, Germany, and Italy. The value of the imports of wood have risen from 70,000,000 francs in 1855 to 154,000,000 francs in 1865.

The greater part of the collection shown in the French Court has been made by the Administration des Forêts of France and the Ecole Impériale Forestière.

There are some very neat relief models, under glass cases, of the forest elevations of the Alps, and the principal modes employed in bringing down wood from these elevations by slides, by rail, &c. There are also fine specimens of all the indigenous and introduced woods, especially circular sections of Abies pectinata, Pinus Laricio, Quercus pedunculata (of 170 years' growth) and other trees round the lower part of the court. These show the admirable suitability of the soil and climate for the production of large trees, and, by comparison from different localities, the variation resulting from situation and composition of the soil.

On shelves all round the court are ranged sections of woods, with the bark attached, well named and numbered. Below these, again, are photographs of the fruit and foliage from the published work of M. De Gayffier, illustrating the collection of the forest products of France.

In a glass counter-case are small polished slabs of different woods, and in other vitrines collections of different pine cones, acorns, and other seeds of forest-trees.

The woods are ranged under two classes—"Bois Feuillées" and "Bois Résineux."

In the centre of the collection will be found a chart of the forests of France, showing, in a salient manner, the dense woods and their relative position over the surface of the empire as compared with the geological character of the soil.

In one corner will be found a most instructive series of illustrations of the turpentine and resin collected from the maritime pine (Pinus Pinaster), which forms the principal riches of the country comprised between Bordeaux and Bayonne. An immense stimulus was given to this industry by the civil war in the United States, which cut off the supplies formerly obtained from the Southern States. In 1855 the export of indigenous resin from France was only valued at 2,250,000 f., but in 1865 it had risen to 27,250,000 f. Turpentine and resin collection.

First, there is a tree with a longitudinal incision, showing the old primitive mode of gathering the resin, permitting it to exude and collect in a hole in the ground, by which an impure resin was obtained and much of the volatile strength lost by evaporation.

Secondly, the improved system of Hugues is shown, small earthen pots being attached to an incision in the trunk, by which a larger and purer quantity of resin is obtained, the essential oil of turpentine being preserved. The ascending ladder, with small side-notches or steps, used by the workmen, is shown, and the tools for incising the bark. The products exhibited are the natural soft resin, which, by fusion or distillation, furnishes turpentine; galipot or white resin, less solid, which appears in the form of stalactites along the trunk of the tree, this has lost its volatile oil by spontaneous evaporation, when purified it is called "Burgundy pitch;" "brai noir," a dark residue; "gemme," the virgin resin; "crottas," a mixture of soft resin and galipot; "barras," which is like galipot, but entirely dry, and adheres to the trunk of the tree; yellow, amber and opaque resin, spirits of turpentine, and tar, or the deposit after distillation.

According to the nature of the soil, the trees are tapped at the age of from twenty to forty years. A pine of sixty or seventy years old will yield from six to eight kilogrammes of raw material, of which about one-third is pure resin and "barras."

On the counter is a good collection of cork bark and shaped corks. The cork oak (Quercus suber) is grown in the south of France, in Corsica and Algeria, but Italy and Spain supply most of the demands. There are three French exhibitors. Cork.

At the end of the court will be found samples of charcoal in all forms obtained from thirty-three different kinds of wood. The quality of the charcoal depends on the density of the wood from which it is obtained and the mode of combustion. It is carbonized in two ways, the first and most common being that practised in the forests, of burning it in piles or stacks containing from forty to fifty steres of 35⅓ cubic feet each. This furnishes a hard, sonorous, and heavy charcoal, which takes fire slowly, but when ignited develops a great quan- Charcoal.

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tity of heat and burns a long time. The second process consists in distilling the wood in closed vessels; but the charcoal thus obtained is inferior in quality, being friable, very light, porous, and inflammable. The manufacture of charcoal employs a great number of workmen in France, who remain almost the entire year in the forests. The production is inadequate to the home demand, and charcoal to the value of about three million francs a year is imported from Germany, Belgium, and Italy.

Tanning barks.

Many tanning barks are shown. A. F. Michel (23) shows chestnut bark, rough and ground, for dyeing. Lamier and Lambert (22) oak and other barks. Besides these the white birch, willow bark, and larch barks are used for tanning. Algeria also supplies the mother country with upwards of two millions and a half kilogrammes of tanning bark. Carré and Nephew (10) show seventeen or eighteen bottles of ground dye-woods, and Strauss-Javal (9) dye-woods, extracts and lac.

Osier-work.

Basket-work from osiers is another industry coming under this class which is extensively carried on in France for bakers' panniers, hampers, and other baskets, sieves, &c. The great consumption of osiers may be estimated from the fact that in the single department of Seine et Marne 3,072,400 were sold in 1866. In the arrondissement of Vervins there are not less than 3,000 families who make annually more than two millions and a half francs' worth of products, two-thirds of which are exported to England and America. J. Debonnaire, of Melun (20), shows a very complete collection of osiers and basket-work in all its forms, plain and dyed. Wooden shoes are another manufacture appertaining to this class, and of sabots and galoches there are good illustrations, principally shown by two exhibitors; they vary from gigantic pairs fit for the feet of a giant to the petit ones used for children. The imitation of leather in some of these sabots is very deceptive, and wooden soles are also attached to many leathern shoes.

Wooden shoes.

Miscellaneous exhibits.

A case shown by Schmidt-Missler, of Paris (24), should not be overlooked. It contains various examples of the utilization of the needles or leaflets of the pine, in the shape of forest wool for stuffing mattresses; vegetable wool, or wadding, having medicinal uses; essential oil for rheumatism and skin diseases, cloth made of the wool, bonbons, &c.

The larger objects of casks, barrels, tuns, staves, &c., which could not be shown in the building, are exposed in a shed in the park.

Before leaving the court attention may be drawn to the door leading to the other part of this gallery, which is a good specimen of cut and fret work moulding, &c., from the works of Luard, Frapard & Co., Caen (17).

In a detached place in the machinery department of the French gallery will also be found an interesting collection of knots, excrescences, &c., and woods destroyed or injured by insects, the modes of treatment for pruning and training trees, and the instruments used in scientific culture.

The French collection of woods is further illustrated by copies of all the works published in France treating on sylviculture, and by a collection of insects destructive to trees, with instances of their ravages as shown on various woods by Dr. E. Robert (81), of Belleville, Meudon (Seine and Oise), as described in his work "Les Destructeurs des Arbres d'Alignement."

French colonies.

Of the French colonies it may be stated that Algeria shows a noble collection of woods, and there are nine large circular sections of trees on each side of the walls in the machinery gallery. Some very fine stems of the bamboo grass are shown, there is a good display of cork-bark, and natives are employed in shaping and cutting cork.

The other French colonies, West Indian, African, and Pacific, have also a good collection of woods in this gallery in a glass case, and piled on a rectangular counter.

Martinique.

The island of Martinique possesses about 20,000 hectares of forest, with woods suited for building, cabinet-work, dye-woods, &c.; but owing to the want of roads, and the difficulty of getting them to the sea, a large quantity of the best wood is yearly converted into charcoal without much profit to the owners.

Guadeloupe.

Guadeloupe and its dependencies contain some 36,000 hectares of woodland. The green ebony, Laurus montana, walnut of the Antilles, and Campeachy wood are met with abundantly, but little worked, owing to the absence of roads. According to M. Lallemant, Lieutenant of Artillery, the best periods for getting timber are the months of August and January. In Guiana the months of September, October, November, March, and April are considered the best. There is much scientific and interesting popular information on the woods of the French colonies furnished in the special Colonial Catalogue compiled by M. Aubry-Lecomte.

Madagascar.

About 140 specimens of Madagascar woods are shown by two exhibitors, but only the common names are given, and no further information.

Reunion.

The island of Reunion shows a good collection of woods, and has about 57,701 hectares of forest on the mountains, at 1,200 to 1,500 feet above the level of the sea. A stop was put to the indiscriminate destruction of trees by fire, &c., in an ordinance published in April 1853, and much benefit has already resulted from it.

Indian Colonies.

The French territories in India are too well cultivated to be very prolific in wood, but still the

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specimens sent are not wanting in interest. The province of Bien-Hoa, Cochin China, contains considerable forests, and at Tay Ninh, where the trees are principally resinous, tar, oil, and turpentine are obtained. But it is from the forests of Cambodia that commerce may expect to derive the most important resources. A collection of 120 specimens of these woods is exhibited by M. Petit. New Caledonia possesses extensive forests. One of the most common woods is the Niaoulis (Melaleuca Leucodendrum and viridiflora), the wood of which yields to no other for strength, elasticity, and durability. The iron wood (Casuarina nodiflora), Acacia sirorbis, and Thespesia populnea are also esteemed.

Algeria.

The forests and woodlands of Algeria extend over about 3,750,000 acres, about two-thirds of which belong to the State, the rest having been granted on long leases for cork production and olive culture, or on shorter terms, ranging from fifteen to twenty years, for oak, pine, and other woods. Of cork bark about 2,500,000 lb. has been annually exported from Algeria in the last three years. Of the woods of construction two species of oak (Q. Mirbeckii and Q. castaneafolia) are most esteemed for shipbuilding and railway sleepers. The Australian Eucalypti, which have been introduced, thrive rapidly; and the Southern ash, common in Algeria, furnishes a wood superior in beauty and quality to that of Europe. Of the furniture woods the thuja (Callitris quadrivalvis) is made into articles of incomparable beauty, and has regained since the last two International Exhibitions the high reputation it had attained in the time of the Roman Empire. For cabinet-work and marquetry there are many other beautiful woods in Algeria, such as the cedar (Cedrus atlantica) the pistachio, the olive, the juniper, the orange, the ash, and the Quercus ilex, not omitting the briar root, which is used largely for the fabrication of pipes.

The various woods of Africa have necessarily a great interest for France, which consumes annually about six millions cubic metres of woods of construction, while its own forests only produce two millions. The importation of common woods into France exceeds the exportation by 100 millions of francs.

Algeria is also rich in resins, as the many samples exhibited evidence; a large number of trees furnishing gums and resins. The maritime pine, which is well named "the tree of gold" in the department of the Landes, is found in small forests on the Algerian coast; but the pine of Aleppo (Pinus halepensis), which is also rich in resin, covers an extent of 500,000 acres in the zone south of the Tell. Of barks of various kinds there are many which are rich in tannin, and attempts are

being made to concentrate the extract, as is done with the hemlock spruce bark in North America, so as to furnish a more useful article and save freight. The capital engaged in forest enterprises in Algeria is about one million sterling.

The process of cork cutting and shaping from Algerian cork-bark is shown by Berthon Brothers, of Paris, in the Spanish part of the machinery gallery, near the Rue d'Espagne.

Exhibits in the park.

Other specimens of French woods are exhibited in different localities. In a shed, near the Ecole Militaire entrance, the Imperial School of Agriculture of Grignon shows a number of samples with the bark attached, and the seeds of forest trees. In another large building, not far off, containing illustrations of agricultural products and dairy industry, is a collection of the seeds of 379 indigenous or introduced trees which have been naturalised in the south of France, with specimens of their wood and foliage.

Great Britain.

From France we reach the UNITED KINGDOM, but the two or three exhibits there call for no special notice. An interesting collection of samples of colonial and other woods was shown by the Science and Art Department. These represent the experiments as to strength, density, cleavage, &c., made by the late Capt. Fowke, on the woods shown at Paris in 1855, and London in 1862, and the results are fully given in a pamphlet published and distributed by the Department.

Captain Fowke's experiments.

British Colonies.

New South Wales.

The BRITISH COLONIAL COURTS are particularly strong in forest products. Of the collections of the colonies, NEW SOUTH WALES makes the best display of woods and forest products. The court is situated in the machinery gallery, close to the entrance of the Rue des Indes. The whole exterior of the court is ornamented by fine polished slabs of woods. Four high pedestals are found at the inner side of the court facing the great sections of coal from the Newcastle collieries. The durability and adaptability of the colonial woods for shipbuilding are evidenced in many fine slabs of old timber, some pieces taken from a ship built in the year 1831 show the perfect soundness of the wood used. Mr. Charles Moore, director of the Botanic Gardens, Sydney, contributes 156 specimens of woods from the northern districts of the colony, principally in the Clarence and Richmond districts. On both sides of the Clarence River, for upwards of sixty miles, there are belts of wood, but of no great breadth. On the banks of the Richmond it is not so extensive or continuous, but from the north branch of that river a rich brush woodland extends in an inland direction to the north-west and south-west for nearly a hundred miles each way, skirting more or less the vast basin

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formed by the New England dividing range. The number of species of trees, and the size to which many of these attain in this magnificent country, especially on the table-land, is truly astonishing—some red cedars being 10 feet in diameter, and yielding 30,000 feet of saleable timber. Yet so little is known of these woods that, beyond the cedar (Cedrela Australis), pine (Auracaria Bidwellii), rosewood (Synoum glandulosum), ash (Flindersia Australis), beech (Vitex Leichhardtii), tulipwood (Owenia venosa), and silky oak (Grevillea robusta), nearly all the others are regarded as worthless except for firewood.

There are 195 pieces of southern woods sent by the Commission. Mr. E. W. Rudder forwards fifty-nine specimens of colonial woods, and Mr. James Barnet, colonial architect, Sydney, eight specimens and a block of ironbark as used in girders; and Mr. Frankland another block. Large quantities of this wood are shipped to India for railway sleepers. Sir Wm. Macarthur sends some slabs of wood, and a handsome library case made of colonial woods, which stands in the New Zealand Court. Mr. John Cuthbert, of Sydney, forwards a very neat case made of colonial timber, in which are thirty specimens of wood, carefully named, and Messrs. Jolly & Co., shipbuilders, of the Steam Saw Mills, Darling Harbour, a case with thirty-two samples of woods, from their property at Brisbane Water. Within and without, the New South Wales Court is filled with woods, many of the finest quality for cabinetwork, as a handsome table top standing at one of the entrances proves. The tulip-wood is especially ornamental. There are samples of many tanning barks and dyewoods. The simple and powerful character of the dyes are shown on specimens of wool, silk, and linen. The turmeric (Zieria octandra) is one. Among the fibres the gigantic nettle (Urtica gigas) plays an important part, being much used by the natives for making kangaroo and emu nets, fishing-nets, and dilly-bags. The unexpanded fronds of the cabbage-palm (Corypha Australis), prepared by repeated immersions in boiling water and by drying in the shade, are much prized for the manufacture of fine plait for hats. The coryjong (Hibiscus heterophyllus) also affords a strong and useful fibre; so does the bark of one or two species of Brachychiton. Many handsome walking-sticks are shown.

Natal and Lagos.

In the courts of Natal and Lagos there are small collections of woods. In the latter, Mr. Edward Simmonds has brought together a very interesting series illustrative of African industry in matting and basket-work, gourds and calabashes, curious wood carvings, &c.; also fibres, dye-woods,

and colouring substances. The Natal collection comprises about 55 samples of wood, several of a very useful and ornamental character, as evidenced in an ornamental cabinet of colonial wood shown by Her Majesty the Queen from the Exhibition of 1862, and an ornamental sideboard made by Mr. Charles Buckpitt, of Maritzburg. The Cape Colony exhibited a collection of small samples of 102 kinds of wood, and some half dozen tanning barks. The varieties and properties of the South African woods are not so well known as could be wished, and many are not even yet scientifically determined.

Queensland.

The Queensland Court is very rich in fine samples of timber, nearly all the sides being filled with longitudinal or transverse sections of the woods of the southern and northern parts of the colony. Mr. W. Hill, director of the Botanical Gardens at Brisbane, sends 158 specimens; Mr. A. Thozet, another large collection. M. H. Marsh, Esq., M.P., exhibits two fine logs of myall wood (Acacia homalophylla), now much used for its violet scent by perfumers and cabinetmakers for making fancy workboxes, jewel caskets, pipes, and other articles. Mr. Marsh also contributes a very large and fine collection of small polished pieces of wood showing their applicability for cabinet and ornamental work. The woods and vegetable products sent, however, present comparatively few novelties since the date of the previous Exhibition, owing principally to the limited time allowed for procuring and preparing specimens.

South Australia.

South Australia sends only a small collection of twenty-six polished woods and some tanning barks, gums, and resins. Two trunks of the grass-tree (Xanthorrhœa hastilis), with their long flower-stalks, at the entrance, are curious, as showing the deposit of the resin in the bark.

Victoria.

Victoria has not sent so fine a collection of woods as it might have done, and it is certainly inferior to that shown in 1862. There are stems of tree ferns placed at each side of one of the doors. Wheels and articles of turnery, myall wood planks and pipes, some interesting examples of the distillation of essential oils from the leaves of the Eucalypti, and samples of barks and paper made from various Australian woods contributed by Dr. Mueller, complete the collection of objects in this class.

Canada.

Canada has an ample display of its woods, forming one of the chief features of attraction in the court. A great deal of good taste has been displayed in the arrangement, which is made to represent a tent in a Canadian forest. The iron columns of the building are disguised so as to represent the huge

Mr. Simmonds on Forestry.

trunks of trees, the roof imitates branches and foliage of the forest, and all the fittings are painted maple and walnut. The principal ornamental woods are ranged on an etagere in the centre of the court. Black walnut furnishes one of the finest woods for the cabinetmaker; it is beautifully marked, especially the blistered, wavy, and bird's-eye varieties and excrescences.

The maple, with its varieties of bird's-eye, curled, blistered, &c., is another esteemed wood. The tulip-tree, or white-wood, bass-wood, and the white or Weymouth pine, also look well polished and varnished. The butternut (Juglans cinerea), blistered ash, black ash, and black birch are handsome woods, especially the excrescences of the black ash and the white and blistered oaks. Small sections of the trunks of the trees are shown with the bark on, and all well named. The Abbé Brunet exhibits interesting photographs of the woods, &c. In the passage alongside of the principal court are shown enormous and extraordinary sized trunks and pieces of timber piled one on the other. The average quantity of timber annually obtained in Canada is over one million and three-quarter tons. In the forests 15,000 men are employed, and in the partial manufacture of lumber over 2,000 saw mills and at least 10,000 men. Timber further employs at Quebec about 1,200 vessels of an aggregate freight capacity of 700,000 tons, besides 500,000 tons of lake and canal tonnage. Seventeen thousand seamen are engaged in carrying its products from Quebec to Europe, and 8,000 more in their transportation on inland waters.

East Indies.

The East Indian woods shown are in the British Agricultural Annexe in the park. The timber exhibited from

Bengal.

the Bengal Presidency consists of fifty specimens, collected in the central provinces, all of which are correctly named and described in French and English, with the uses to which they are specially applied. Also a collection of fifty-eight specimens made by the conservator of forests for the Meerut division; forty specimens of the most useful timbers from Burmah, and specimens from Sasseram Behar, with smaller contributions from Chittagong and other localities. The foregoing are all exhibited by the Bengal Government. The private exhibitors in this Presidency include his Highness the Maharajah of Jeypore, the chief of Punwah, and Captain Martin, of Goonah.

Madras.

From the Madras Presidency the Government exhibits a good collection, consisting of 101 specimens of timbers really in use in the Presidency for various practical purposes.

Mysore.

From Mysore a large collection of timber is shown by the

Forest Department, consisting of cross sections, longitudinal slabs, squared blocks, and turned cylinders, so that the same wood is exhibited in all conditions for examination, and each specimen is stamped with its botanical name. Superintendent Lal Baugh also contributes a collection of Mysore timbers.

Bombay.

The only exhibits from the Bombay Presidency consist of nineteen specimens from the Forest Ranger of Sindh, and some rough blocks from the Tanna Collectorate.

Straits Settlements

A collection of eighty specimens of good commercial timbers is shown by the Company of the steam mills, Johore, Singapore; and an excellent series of 48 useful woods, unfortunately with merely the native names, are sent by the Hon. Colonel H. Man, of Penang. It is worthy of record that Dr. Cleghorn exhibits on behalf of the Government a large section of Deodar (Cedrelus deodara), with a diameter exceeding 4 ft., and thoroughly sound. J. E. Leveson, of Singapore, sends a collection of all the commercial canes which are imported from Singapore, consisting of about fifty varieties. Charcoal from various Indian woods are also shown by Captain Martin, of Goonah, and his Highness the Maharajah Holkar, of Indore, besides some Government contributions.

The other British Colonies which show woods are Mauritius, the Cape Colony, British Guiana, Trinidad, and the Bahamas, all lying close together, and these five collections may be studied with advantage.

Mauritius.

Mauritius sends 66 sections of wood, of which 45 are from indigenous trees. They appear to be chiefly useful building woods, and but few are of an ornamental character fitted for furniture.

British Guiana.

The collection from British Guiana comprises similar woods to those shown in 1862, including the Mora, Greenheart, purple wood, and others of a long established reputation.

It may be asserted without reservation that the timber and furniture woods of this colony vie with those of any other part of the world. The excellence of two of the woods, Mora and Greenheart, is acknowledged at Lloyd's, where they rank among the eight first-class woods for shipbuilding. The wood named Purpleheart (Copaifera pubiflora, Benth.) might, amongst others, probably be found well adapted for the inner lining or skin of armour-plated ships. From the table of exports of the colony it appears that the demand for timber has largely increased since the Exhibition of 1851, though it fluctuates considerably according

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to the condition of the home markets. In 1851, 177,780 cubic feet of timber were exported from the colony; but in 1861 and 1864 the exports averaged 820,000 cubic feet. Vessels of large draught of water can ascend the rivers to a considerable distance, and load timber from the woodcutting establishments. Extensive tracts of primitive forests are yet untouched, especially beyond the Rapids, the difficulty of floating the timber over operates at present against their full development. Sir Robert H. Schomburgk, in his work published twenty-five years ago, thus speaks of the woods of British Guiana:—

"The fitness of the timbers for naval architecture is remarkable, and in some instances is said to surpass that of teak. The Greenheart, the Mora, and Souari, of all other woods, are most unquestionably the best adapted for shipbuilding. Within the last ten or twelve years a considerable quantity of brown Greenheart has been sent to Liverpool and Greenock; and I have been told that builders and others interested in shipping are now of opinion, after about ten years' trial of the wood, that in strength and durability it is superior to any oak, and it actually commands a higher price.

"Had these woods been introduced and extensively employed in the Royal dockyards fifteen or twenty years ago, it is the opinion of competent judges that we should not now hear much of dry rot and Kyan's patent, not to mention the rapid decay of vessels built of English and African oak, and the consequent frequent repairs, with what saving to Government would it not have been connected. If, therefore, the attention of the Navy Board could be drawn to this important fact, that British Guiana can furnish the finest and most durable woods in the world, in sufficient quantities to supply all the shipbuilding establishments in Great Britain, a double benefit would arise from it, namely, the saving to Government, and the increased demand for this important production of the colony. The first experiment might be to establish a dockyard for the repair of such of Her Majesty's cruisers on the West India station as draw not more than eighteen or nineteen feet of water. The outlay of such an establishment would be trifling if the importance of ultimate success be considered."

Trinidad.

Trinidad sends two fine collections of woods, one numbering 222 specimens forwarded by Mr. S. Devenish, and another less extensive collection by Mr. H. Prestoe, the island botanist. These woods and their uses are well named and described in the special catalogue of the colony.

The following are pointed out by Mr. Devenish as likely to be useful for shipbuilding and other purposes: —

List of Trinidad Timber which might probably be applied to Shipbuilding.

Nos. 1 to 11 will give sidings, from 20 to 22, and averaging 28 feet in length; Nos. 13 to 15, from 17⅓ to 19½, averaging 23 feet in length; Nos. 16 to 20, from 15 to 17, averaging 23 feet in length; Nos. 21 to 39, from 12 to 14½, averaging 23 feet in length.

Common Name.	Scientific Name.	Remarks.
1. Mora - -	Mora excelsa -	Gregarious tree to be had almost in any quantity, but often decayed in the centre, when of a large diameter; grows in arenaceous soils.
2. Carapo - -	Carapa guianensis	Very abundant, tough and not very heavy; extensively used inside of buildings for rafters, plates, &c.
3. Balata - -	Achras Ballota -	Ditto, but now getting scarce in old cultivated districts, very common inland and along the northern, eastern, and southern coast, considered one of our best woods.
4. Cedar - -	Cedrela odorata -	Ditto. Also very common inland and on the northern, southern, and eastern coasts.
5. Locust - -	Hymenaea Courbaril.	Ditto. The branches give excellent natural curves.
6. Galba - -	Calophyllum galba	Ditto, in several parts of the island; makes excellent planks, lasting and not heavy.
7. Gommier -	Bursera gummifera	Ditto, a little heavier than Galba.
8. Acoma - -	Sapotaceæ - -	Ditto, one of our best woods.
9. Monkey balata -	Sapotaceæ - -	Ditto, not so much used as it should be, principally worked into cart shafts, &c.
10. Balsam capivi -	Copaifera officinalis	Common in some districts, considered one of our best woods for planking of bridges and for cart building.
11. Bois gris - -	Licania incana -	Very common in most of our forests, but not generally found in the market; used in the country for posts.
13. Contrevent -	Achras sp. - -	Very common in the northern range of mountains; excellent timber, hard, tough, and durable.
14. Moussara -	Brosimum alicastrum.	Common in some parts of the island. Used for house building and for making carts, &c.
15. Tendre à caillou	Mimosa lithoxylum	Very common, and in some districts much used for flooring and for planks.

List of Trinidad Timber—*cont.*

Common Name.	Scientific Name.	Remarks.
16. Angelin	Andira inermis	Very abundant throughout the island; exceedingly tough, and as such used for wheels, naves, and felloes.
17 Bois d'Orme	Guazuma ulmifolia.	Ditto, but not used, although tough and light.
18. Cyp	Cordia gerascanthus.	Ditto, much used in carpentry and also for cart and shipbuilding.
19. Guatecare	Lecythis Idatimon	Ditto. Exceedingly common, dense and very tough, and much used for carts, shafts, and poles; one of the most elastic woods here.
20. Olivier	Bucida Buceras	Ditto. Excellent for planking, not very heavy, much used for flooring of bridges and houses in the country districts.
21. Genipa	- - - -	Very common, elastic, and tough.
22. Laurier	Laurus Sp.	Ditto. There are several sorts of laurier used for whale boats, oars, and masts, for shells of canoes, and also by carpenters for flooring, &c.
23. Purpleheart	Peltogyne paniculata.	Very abundant in several districts, hard and dense, but seldom used except for mills, ramrods for guns, cart axles, picture frames, &c.
24. Poui	Tecoma	Ditto, except in a few districts and in old cultivated localities, perhaps the best, hardest, and most durable wood in the colony; much used for piles of bridges, house posts, &c.
25. Roble	Platymiscium polystachium	Very common. Excellent timber, much used by carpenters and for cabinet making.
26. Yoke	Acacia	Ditto. One of the finest woods in the island, much used in carpentry for house posts, furniture, and turnery.
27. Savana yoke	Piptadenia	Ditto. Very tough and durable wood, excellent for felloes of wheels.
28. Grey savonette	- - - -	Ditto. But seldom used except for cart building; it is a very tough wood, which might certainly be used for many purposes.
29. Sea side grape	Coccoloba uvifera	Common in some parts of our coasts, where it is used for boat building.
30. Surette des Grands Bois.	Byrsonima spicata	Common in some districts, tough wood, used for felloes of wheels, &c.
31. Tapana	Stillaginella	Very common, hard tough wood, excellent for ship building, cart wheels, &c.

List of TRINIDAD TIMBER—*cont.*

Trinidad.

Common Name.	Scientific Name.	Remarks.
32. Wild tamarind (Bois mulâtre).	Pentaclithra filamentosa.	Exceedingly common, seems an excellent timber, but seldom worked except in some quarters, such as Caroni, where it is used for bridges, for house posts.
33. Fiddle wood -	Vitex capitata -	Very common, much used in house and bridge building, and considered one of our most durable woods.
34. Bois doux marron.	- - - -	Ditto, seems hard, tough, and elastic, but I believe never used.
35. Tecoma pentaphylla.	- - - -	Only lately come under my notice, cannot yet say whether it is indigenous or even much found here, exceedingly tough timber.
36. Aguatapana or beef wood.	Rhopala montana -	Common in the northern range of mountains, where I believe it is almost only to be found, curious wood, excellent for house and fence posts.
37. Poirier - -	Terminalia -	These two sorts of Terminalia are very common in some districts, principally along the coasts of Cedros and Icacos. They are much alike, very tough, and excellent for boat building. I have no doubt they might prove useful, wherever elasticity and toughness is required combined with lightness.
38. Amandier du bord de la mer.	Terminalia -	
39. Wild Guava -	- - - -	Very common. Elastic and tough, and much used for cart poles and shafts.

South and Central America.

From the SOUTHERN and CENTRAL AMERICAN STATES interesting collections of wood have been sent, but in most instances there is an entire absence of scientific or general information to illustrate them. The ARGENTINE CONFEDERATION shows in the machinery gallery some tanning barks, not named, and a large collection of sections of woods; but very few of these have botanical names attached.

Argentine confederation.

There are apparently about seventy varieties, and some of them appear to be useful woods. They come principally from the provinces of Tucuman and Jujuy. Major Rickard sends specimens of fifteen of the principal woods of the province of San Juan, the Provincial Committee of Mendoza nine from that province, and the Commissioners of Tucuman and Jujuy a good collection of building and furniture wood of their provinces. Among the most prominent may be enumerated the Algarrobo negro (Prosopis dulcis), useful

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for furniture and carriages. The edible fruit furnishes chicha. The Pino curuy (Araucaria imbricata) is a first-class carpenters' wood: the seeds of the cones are edible. Arrayan (Eugenia sp.), a hard, mottled wood, said to be as good as boxwood for turnery purposes. Naranjo (Citrus aurantium) is also a useful wood for the turner and for the handles of instruments. Quiniquina (Myroxylon peruiferum) the tree which furnishes the odoriferous balsam of Tolu, is an excellent wood for carpenters and cabinet work.

Noyer (Juglans alba), churqui, cebil, palo blanco, and Guayacan are fine mottled dark woods. Tatare, urunday, and quebracho are also first-class woods for colour and strength.

Ecuador.

ECUADOR shows a collection of about 100 woods within a flat counter case, specimens of fustic, Brazil, and other dye-woods, carved calabashes, and a very curious specimen of ingenuity in a skull carved in wood so true to nature as to deceive many. Corozo, or vegetable ivory, nuts (Phytelephas macrocarpa), which are now getting scarce in commerce, much to the regret of the turner, who fashions them into so many small fancy articles. Various gums, resins, and fibres are exhibited, especially the fibre which furnishes the Panama hats now so much in demand, called locally "nacuma" (Carludovica palmata).

The woods from Ecuador have unfortunately only the common names. It may be observed incidentally here that the woods of South America in general are more a subject of commerce for the future than of enterprise at present. The scarcity and high price of labour, with the difficulties in the way of exploration and transport to the coast, materially circumscribe the prospects of supply. Ecuador, however, has some advantages in splendid forests easy of access on the borders of the river Guayaquil, which Peru, Bolivia, and many other of the republics having forests far in the interior do not possess.

Timber is generally difficult to procure in consequence of the great cost which its felling and transport entails. At present Ecuador exports building woods and enormous bamboos, which are used for like purposes, and it also ships wood for burning.

Venezuela.

From VENEZUELA eighty-two longitudinal specimens of furniture woods are contributed by M. Aune Bosquet. The New Quebrada Company of London send sixteen specimens of furniture woods from their property at d'Aroa. There are cinchona barks from the forests of Orinoco. M. E. Thirion, the Consul of the Republic, is a large contributor, and shows, besides other objects, handsomely painted and

carved totumas, or calabashes; a table of gateado wood from the forests of Orinoco; a workbox made of palm-wood, Guayabo and Pinarili; handsome cocoa-nut cups and drinking-vessels of different forms mounted in silver; and two wooden seats or stools, made of Macanilla wood, by the Indians of the Rio Negro.

Costa Rica shows a good collection of woods; and San Salvador about seventy specimens. Costa Rica.

From Paraguay sixty-three small polished samples are contributed by the Government; and Mr. Demersey sends fifty specimens and boxes made of native woods; but no information is furnished respecting these. Paraguay.

From Uruguay Baron Maua forwards about sixteen specimens of hard woods and white woods from his estate at Soriano, province of Mercedes, on the borders of the Rio Negro. These represent the principal woods, the others being of less importance. Uruguay.

Chili is more rich in woods than is generally supposed. In the interior valleys of the Cordilleras there are from 250,000 to 500,000 acres of virgin forests, containing trees of great dimension, fit for naval architecture, house building, and cabinetwork. Part of the specimens sent to the Exhibition (about fifty-four in number) are shown in the machinery gallery. Chili.

Brazil makes a very attractive display of its woods, and is beginning to devote much scientific examination to their properties and character. In the forests of Brazil are found some of the best kinds of timber for naval or civil constructions, and for cabinet-work the richest and most beautiful known to the trade. Among the first may be mentioned peroba, tapinhoa, cabiame or black Jacaranda (rosewood), corcunda, Brazil wood, mountain ash (sobro), bacuri, sucupira (Bowdichia virgiliodes), aroëiro do sertao, ipé, pequia (Caryocar brasiliensis), massaranduba (Mimusops excelsa), iron wood, cedar, laurel or bay tree, itaoba, sapucai (Lecythis grandiflora), barauna (Melanoxlyon Brauna), and many others. Brazil.

The mairapinima (Centrolobium paraense), saboa-rana, pao-cruz, vinhatico (Echinospermum) satin wood, rosewood (Jacaranda Brasiliana), goncalo alves (Astronium franinipholium), sefastiao d'arruda, musia-pirunga, and others are excellent for cabinet-work.

Passing from the outer circle towards the inner, attention may first be drawn to a curious tea service, turned out of palm wood — cups and saucers, tea-pot, bottles, basin, &c. There is also a guitar and a flute made of the same wood, and forming part of a most complete and

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Brazil.

instructive series of the applications of the Carnauba palm (Corypha (Copernicia) cerifera). From the surface of the leaves is obtained a hard vegetable wax, of which candles are made. The fruit is eaten raw or boiled. A farina is obtained from the trunk, and the wood is very durable. From the fibre of the leaves are made cordage, mats, brooms, hats, baskets, sieves, &c. There is a painting showing the tree and the scenery which accompanies it. The wax is made into hard candles, which are much used in the provinces of the north, especially in Ceará. There is annually exported from Fortateza, the capital, to the other provinces and to Europe from 2,000 to 3,000 arrobas, from the port of Aracaty 30,000 to 35,000 arobas, from the ports of Acaracú and Granja and from the interior great quantities are also sent to the neighbouring provinces. The annual export may be estimated at 12,500 cwt., and the internal consumption at 10,000 cwt., the total production in the province of Ceará amounting annually in value to about 900,000 milreis of 2*s.* 3*d.*

India-rubber.

A lot of curiously carved walking-sticks and canes in the Brazilian Court should not be passed over. Brazil is rich in gums and resins. It is from that country Europe and the United States draw their best, if not the largest, supply of caoutchouc. The province of Para furnishes one-fourth of all that is sent into the market. India-rubber is one of the principal sources of the wealth of Para. It is obtained from the milky sap of the Siphonia elastica, which yields about 30 per cent. of the elastic gum. This tree grows in abundance wild in the provinces of Amazonas and Para, and is found on a smaller scale in the provinces of Maranham, Ceara, and Rio Grande of the north. It attains the height of 26 to 42 feet, with a circumference of 6 to 8 feet. The gum is obtained by making deep transverse incisions in the trunk of the tree a few feet above the ground. In order that the sap may flow more abundantly, another vertical incision is made above reaching to the transverse cut, and oblique incisions are made at short distances running into the vertical one. The operation is assisted by winding cords tightly round the trees, which not unfrequently kills them. In a few hours the sap fills the earthenware vessels which are placed to collect it; these are emptied into others, and the sap soon thickens and solidifies by the evaporation of the watery part. It is then dried by exposure to a moderate heat, and blackened by the smoke of palm nuts burnt.

So great are the profits to be obtained that hundreds of canoes cross every year from the left bank of the Amazon to the islands and to the forests around Macassa in search of

rubber. No precautions are taken to preserve the trees, and from this cause already some districts produce a much smaller quantity than formerly. The tree, however, grows in great abundance throughout the whole valley of the Amazon and on the banks of the tributary rivers. The price varies much; it has been sold at 40 dollars per arroba, and has fallen often to 12 dollars. It is commercially classified into fine, inferior, simamby, and negro head. The price of the fine fluctuates at present between 16 and 20 dollars per arroba. The quantity of rubber exported from Para has averaged 274,000 arrobas in the last two years, 1865 and 1866. Between 1840 and 1866 there was exported from Para caoutchouc to the value of 44,138,000 milreis of 2*s.* 3*d.* each. From the milky sap of many other trees elastic gum can be obtained as fine as that from the Suringa or caoutchouc; for example, they have lately discovered, in Gumpa, that the sap of the mompiqueira or amaro da Silva gives excellent elastic gum. The botanical name of the tree is not, however, given with the article shown. The milky sap of the Mangaba (Hancornia speciosa) yields a very fine elastic gum, but the tree is not common, and is preserved for its edible fruit. Brazilian dye-woods are numerous, and among those best known may be cited the logwood (Haematoxylon Campechianum), red mangrove, Melanoxylon Brauna, Maclura tinctoria, Terminalia tingens, and Brazil wood (Cæsalpinia echinata).

Brazil.

There are many resins and balsams shown, as well as medicinal and other barks; but it is from the numerous specimens of woods (most of which are scientifically determined) from the various provinces of Brazil that an idea of the importance of the flora of the empire can be best obtained. The valley of the Amazon contributes in a remarkable proportion its contingent furnished for the Exhibition of the forest riches. The province of Rio Janeiro is represented by a collection formed after five years' continuous and toilsome labour. The province of Parana occupies the third place. The Brazil woods are shown in a cleverly-arranged niche or court, representing a forest nook. In the centre the woods are erected into a trophy; on the inner sides are small pieces, and on the outer sides larger sections, of the timber.

In a small, neatly-arranged court adjoining will be found a few interesting exhibits from the Hawaiian Islands. In the centre is a table made of native woods. W. Fisher, of Honolulu, contributes a frame and box, showing specimens of wood suitable for cabinet-work. Major E. Hasslocker, Hawaiian Consu at Carlsruhe, sends specimens of various woods – a picture frame in tamana and cocoa wood;

Hawaii.

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F. Judd, polished sticks of cocoa-nut palm. The Government also sends large gourds and calabashes for domestic use, and vessels in hard wood, fans of plaited leaves, and sandals of bark fibre. Another product of some importance is the pulu fibre, as it is termed; the brown silky stipes of a species of tree fern (Cibotium), of which 212,000 lbs. were exported in 1866, principally to San Francisco, to be used for stuffing couches, &c.

United States.

The UNITED STATES make a very poor representation of woods in their great court. The States of Missouri, Kansas, Wisconsin, and Illinois send small collections of samples, and Mr. J. D. Boyd, of San Francisco, forwards a few cabinet woods from California. Some fret, scroll, and ornamental sawing, mouldings, and clap-boards complete the woods. A little resin and resin oil from Louisiana is shown; and the black and grey moss from Louisiana, much used by upholsterers for stuffing. It is an epiphyte, the Tillandsia usneoides, sometimes known as Spanish moss and Barba Hispanica. It possesses considerable elasticity, is prepared as a substitute for horsehair, and is also used by naturalists for stuffing birds and animals.

Russia.

The collection of woods and forest products from RUSSIA is principally exhibited in the outer or machinery gallery. The inner side of the Russian restaurant shows the mode of framing or shingling the sides of houses in Russia, and the whole of the fittings of the court, and the separate buildings, stables, &c., in the park, are very characteristic. There is an interesting stand of bast or fibrous products from the bark of the lime; cordage, bags, mats, sandals, baskets, horse-collars, and other articles are made of it. The thin fibre is much used by gardeners for tying plants. Millions of bast mats are used annually for baling and packing purposes. A full-sized Russian bast-mat weighs about 5 lb. when new and quite dry; is 7 ft. long and 4 ft. broad, and is made with the rougher and worst strands worked crossways, and the thinner and longer strands lengthways, in the mats. On the same stand are bowls, spoons, cups, toys, platters, ladles, butchers' trays, lanterns, and other objects made of the wood. Many of the circular boxes used to hold grain and seeds in this court are made of birch and other barks.

One collection of woods is arranged in a pyramidal form, another on a square stand. Ranged round the sides are boxes in the shape of imitation books, cleverly designed, showing the bark as the back binding, lettered with the popular and scientific names of the wood. Each box contains samples of the leaves and fruit of the tree, and a section and shaving or veneer of the wood. Besides these, there are fine full-sized

circular sections of the trees, with the implements and utensils used in arboriculture. Among other curiosities is a walking stick, with the handle carved into a pipe-bowl, while the hollowed interior forms the stem, so that the pedestrian need never be without his narcotic companion. Russia.

There is a counter with samples of good cut corks, by P. Jacobs, of Riga. He employs 185 men and supplies 60,000,000 corks yearly. On a pedestal is a collection of 22 specimens of the woods of Poland, furnished by the Administration of the kingdom; 53 specimens of trees and shrubs, in the form of books; and a collection of articles made of wood. Another stand contains a fine illustrative collection of the woods of the grand duchy of Finland. There are about 25,000,000 acres of woodland in Finland; and from the forests of the State there might be cut annually 11,000,000 trees, of which at least 1,000,000 would be found of very large size. The Pinus sylvestris is the principal tree, and furnishes the greater part of the wood shipped. The export from Finland, according to official returns, was, in 1865, 20,000,000 cubic feet of deals, 209,000 barrels of tar, and 320,000 kilos. of potash. The export of wood has doubled since 1850. The value of these exports was nearly 1,000,000*l.* sterling.

F. Idestam, of Tammerfors, shows wood paper-pulp, of which he makes annually about 200,000 kilos., chiefly for export, at the price of $7\frac{1}{2}$ f. per kilo. free at Helsingfors, or $11\frac{1}{4}$ f. delivered at Lubeck.

The Ecole Forestière of Berdiansk shows thirty-six specimens of woods, illustrating the species artificially cultivated in the steppes. The Government of Grodno, sixteen specimens of woods from the forest of Bialovege.

M. Frautfettert, the director of the Imperial Botanic Garden at St. Petersburg, sends 161 specimens of woods. The greater part of the houses and constructions in Russia are made of wood; from 130,000 to 140,000 houses are built annually, and about 35,000 vessels for interior navigation, of which at least half are broken up yearly, as they rarely obtain a return cargo. The exportation of building woods from Russia reaches about one million sterling, and increases annually. The entire value, therefore, of the production of woods in European Russia is set down officially at twenty-two millions and a half sterling. Independently of the wood thus used, a good deal is destroyed—first, for the production of potash; secondly, for pitch, turpentine, and tar; and, thirdly, for planks used by wheelwrights, carpenters, and other workers in wood. These will enhance the value of the forest products already estimated by about four millions sterling more.

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Italy.

The woods of ITALY are shown in the outer circle, or machinery gallery, on two pyramids or raised pedestals. On one there are sections of wood united by hinges, so that both the interior and exterior of the tree can be seen; on the other are small slabs of building and other woods.

The number of Italian exhibitors in this class is 59. The extent of forest in the kingdom, including VENETIA, is stated at about four and a half million hectares, or one-sixth of the whole territory. About two-thirds of these forests belong to the State.

Italy, which possesses two grand chains of mountains, vast forests, islands and coasts provided with venerable trees, with its varied climate and powerful vegetation, naturally abounds in wood, which suffices not only for the home demand, but also for foreign supply. In the forests of Sardinia, Tuscany, and the Neapolitan provinces there exist shrubs which are burnt to obtain from their ashes alkali and potash. A part of the wood, however, is only half consumed, and this furnishes charcoal. The difficulties of transport and the demand for economic and industrial purposes have given great extension to this labour, which utilizes the wood, and reduces it to half its bulk and a fourth part of its weight. One perch of good coppice wood will furnish 170 lbs. of charcoal, the cost of transport of which to the seats of consumption varies from 1 to 3 centimes per 2 lbs. It may be inferred that the demand for this fuel is considerable, when we find that in a great number of the valleys of Northern Italy the charcoal is sold at 5 to 10 cents the kilogramme. Piedmont exports annually 97,893 metrical quintals of charcoal.

The wood of Lombardy and Venetia furnishes scarcely sufficient for the wants of the inhabitants. The country which produces and exports the largest quantity of charcoal is Tuscany, from which there is sent each year 220,000 pizze, of the value of 1,501,676 francs.

The wood ordinarily used for making charcoal is the oak, poplar, and chestnut. The average annual exports of charcoal from Italy in the four years ending 1865 was 350,275 metrical quintals, of the value of 100,000*l.*, but about half as much is also imported. The imports of wood for burning are 433,000 metrical quintals, or three times the quantity exported.

Cork bark is an article of export, about 4,500,000 kilogrammes being exported annually from Tuscany and Sardinia. Oak bark is also collected with great care in most parts of Upper Italy, where there are mills for crushing it to powder, in which state it forms an article of commerce. Barks for tanning and dyeing form a considerable article of

export, averaging 462,000 cwt. per annum, principally sent to England, France, and America.

The forests supply woods which are much used for agricultural implements, especially beech, poplar, willow, mulberry, oak, and elm. For building purposes wood is much less used in Italy, because it is replaced abundantly by marble, stone, and brick.

Sardinia. Sardinia is rich in shipbuilding woods, which are employed for the mercantile marine. The single forest of Montana furnishes yearly 150,000 cubic feet of oak, elm, and ash, woods exceedingly useful for maritime constructions and gun carriages. Sardinia supplies also annually 2,000 to 3,000 tons of large timber for the frames of vessels. The oaks, which grow in the forests of Umbria and the Marches, also furnish excellent materials for the construction of vessels, being used not only in the ports of the Adriatic, as in the shipyards of Ancona, which have acquired celebrity in shipbuilding, but also sent in great quantities abroad, especially to England. The oak thrives in Tuscany, from whence is obtained the wood most esteemed in Europe for the ribs or framework of ships, as it is very compact in its nature, and therefore exceedingly durable. The Tuscan forests contain trees of all heights and diameters, hence we obtain and import for our navy 80,000 to 110,000 cubic feet of this wood. There is also forwarded annually 20,000 to 25,000 cubic feet for use in the shipbuilding yards of Genoa, Malta, and Spain.

Among the native woods useful for furniture are the walnut, which abounds in Northern Italy, the fig, olive, maritime pine, jujube, locust, and the citron, cultivated in Piedmont and Tuscany; the maple, cherry, chestnut, oak, &c., which are met with everywhere.

Belgium. Belgium has about 11 exhibitors in this class, but the objects have not much general interest. A frame is shown of specimens of woods grown by Baron E. Peers, of Oostcamp, near Bruges (830). Many of the veneers, planks, &c., shown come, however, under Class 58.

L. Zoude, of Val de Poix, Luxemburg, exhibits a good collection of wood for gunstocks, wheel-spokes, &c.; staves and beech wood cut into all forms and dimensions. The most interesting collection from Belgium belonging to this class is a case showing the various applications of rattans by E. Van Oye van Deerne, of Antwerp. The more finished manufactured products are shown in a glass case in the main passage. A trophy of the raw material and rough products belonging to the same exhibitor will be found in the outer circle of the machinery gallery. Rattans, the commercial name for the

long trailing stems of Calamus Royleanus, C. Roxburghia, and various other species of palms, form a considerable article of export from India and the islands of the Eastern Archipelago.

The rattans are shown in their natural state as received in bundles from various localities; also washed, bleached, and cut in different lengths for rustic buildings, trellis work, and canes, the bark peeled off for caning chairs, couches, carriages, &c.; the bark for basket-work and fine hat plaiting; imitation whalebone for the ribs of parasols and umbrellas, crinolines, and ladies' stay-bones; white and black varnished canes, mats made of the shavings, the same twisted, either white or dyed black, for mattresses. This manufacture had long been carried on by hand, but the exhibitor seems to be the first who has applied machinery on a large scale to all the processes required. The cane is divided by machinery into eight, nine, or as many sections as may be required for basket or cane work, or for umbrella ribs. The latter are shaped, cut, and pressed entirely by machinery. About 50 per cent. of the cane is used for plaiting-work, and the rest for umbrella ribs, which are turned, pointed, varnished, and polished. The exhibitor used up about 2,000,000 rattans last year. Fully three-fourths of the manufacture is sold in France, and a great deal goes to Brazil and the River Plate for chairs, &c. It sells for 4f. 75c. the kilo. in Paris; but in Brazil it fetches 8f. It takes four kilos. of rough rattan to yield one of finished material for caning, and the débris or waste peeled off is not lost, but is converted into "crin végétal," or twisted vegetable fibre for stuffing mattresses and making mats. As the mattresses retain no odour, but are always sweet and pleasant, they are much used in hospitals on the Continent. The cost for this purpose is about one-half less than the Algerian "crin végétal." The mats made of it are sold at $2\frac{3}{4}$f. to 3f. the square metre.

In the special catalogue of Belgium, attention is drawn to the importance which the various industries connected with woods have attained, and the reduction in price which has resulted from improved steam saw-mills and other machinery. In Brussels and its neighbourhood there are a great number of saw-mills, and cabinet work is largely carried on. In Ghent there are nine, and in Antwerp and its neighbourhood five saw-mills of considerable importance. There are also many in Luxemburg. Those of St. Ode and Wauinsart supply the wood for staves, and for the small planks required for the glassworks of Liège and Charleroi, while those of Poix are occupied in making the circular pieces for wheels and the stocks of guns in beechwood for exportation.

Holland exhibits a small collection of woods from its Indian possessions. Holland.

Norway has, in the machinery gallery, a collection of deals of different qualities, and cornices and mouldings made of them. Considering the extent of the commerce in wood of Norway and Sweden, their forest industry is badly represented. The resin and turpentine products are, however, very well shown. Norway.

There is only one country in Europe—Russia—where the forests, taken in the strict sense of the word, cover a surface as large as in Sweden, where the productive portion of the forests is estimated by competent authorities at nearly 13 million hectares. Of the whole territory of Sweden, the forests comprise 32·17 per cent. As an instance of the abundance of wood, it may be stated that in two of the departments of Northland, the least wooded, Gefleborg and Westernorrland, the extent of forest is over 2½ million hectares, exceeding the extent of all the forests of Bavaria, and quadruple the surface of woodland in either Belgium or Switzerland. Fully one-third of the wood importation of the United Kingdom comes from Sweden and Norway. In 1865, Sweden exported 58 million cubic feet of logs and planks, 13½ million cubic feet of posts, 16,000 sleepers, besides a large quantity of spars, masts, yards, bowsprits, oars, staves. Sweden.

Tunis shows nothing but a collection of cork bark, some baskets, and brooms of date palm which sell at the high price of 2*s.* 4*d.* each; some wooden spoons, selling at 2½*d.*, are not to be compared for cheapness or finish to those shown by Russia. Tunis.

Morocco has a small collection of unimportant woods, some mats, hats, baskets, and covers for koskouscoo, made of leaves of the date palm. The baskets are ornamented with pieces of coloured cloth. Morocco.

Turkey shows a fair collection of samples of wood built up to form a door leading from the court into the passage. There are also some small cubes of pine in a case. Turkey.

Roumania is one of the principal forest countries of Europe, one-sixth of the territory being covered with fine timber. At the base of the mountains there are 608 saw mills, which give employment to about 900 workmen. The wood consumed annually in the country is valued at 282 million piastres, and that exported at about four million piastres. Turkey is the best customer for its wood. Roumania shows a small collection of woods, resins, charcoal, and other forest products. Roumania.

Egypt has, on the circular gallery which traverses the machinery department, opposite to its allotted space, a col- Egypt.

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lection of woods arranged in three columns, but these comprise nothing remarkable. There are wooden shoes and bowls, baskets, and gourds, cordage of the doom palm (Hyphaene Cucifera), and Boswellia thurifera.

Japan, China, and the East.

Japan, China, and the Eastern Archipelago generally have not sent many illustrations of their forest products, and yet some of their woods of construction, especially the camphor wood and indigenous pines, are curious and largely used. In a glass case in Japan there are a few articles of interest, especially in fibres, such as the palm leaf sheaths, &c., of which fine sweeping brooms are made, wooden toothbrushes, charcoal, apparently made from tree ferns, palm fans, neat wood boxes, sandals, shields, baskets, and other ornamental articles made from rattan cane, large bamboo stems, the bark of the Broussonnetia papyrifera, and other barks from which the tough paper is made so largely used for every kind of article throughout the country, from pocket-handkerchiefs to rainproof coats, and from small cordage to artificial leather.

Spain.

In a special building of two stories in the park Spain shows its agricultural and forest wealth. On a raised pedestal on the ground floor is a good collection of 150 woods in transverse and longitudinal sections, with charcoal in bottles on the top. All the woods are well named, and contributed chiefly by the Botanic Garden, Madrid, and the Institute of Cordova. The implements used in arboriculture and sylviculture are shown. Specimens of cork and of the wild grass Esparto, which has of late years obtained such an important commercial value as a paper material in England.

There is another collection on an adjoining counter of sections of woods and seeds of trees by the Sociedad de Amigos del Paix, Canaries. Juan Perez sends sixty-six small slabs from the province of Pontevedra, and the corps of Forest Engineers collections of resinous products, ashes, barks, rushwork, and bundles of palm-leaves. M. Camps has a wood trophy, with sixty-two small samples of woods, some wrongly named, as, for instance, one Musa paradisiaca. The cones of Pinus pinea, the seeds of which are edible, are largely shown. There are some very fine slabs of cork on the staircase and in the upper gallery. In an inner room is a large collection of the woods of the Spanish colonies, Cuba, Porto Rico, the Philippines, &c. No fewer than 218 forest trees, chiefly of the more northern provinces, have been subjected to experiments in the arsenal of Manila, and the relative strength, tenacity, and specific gravity of the timber ascertained for economic purposes. For shipbuilding the following six are most in use:—The Molava (Vitex

geniculata), the Banaba, the Jacal (Dipterocarpus), the Dungon (a Sterculia), the Mangachapui (Vateria mangachapui), and the Quitaquita. There are two noble slabs of narro or red sandal wood (Pterocarpus santalinus) from the island of Mindanao, one about 13½ ft., the other 10 ft. long, by 6 ft. wide; some good specimens of the fibrous Bahate bark, which is beaten out and used for clothing, sacks, &c.; and a large collection of Abaca or Manila hemp, in all forms, as fibre, rope, &c. from the Musa textilis. One object that should not be overlooked is a cane or stem of Calamus mollis, about 250 ft. long, which is twined round and round the stair-head. There are several kinds of bark rope and specimens of the Cabo negros, known in other parts as Ejoo fibre. This strong black horse-hair-like substance is obtained from the Arenga saccharifera. It is very durable and tenacious, and universally employed in the countries where the trees are indigenous for making cordage for nets, the rigging of vessels and cables. Upstairs, on the landing, is a fine collection of more than 500 specimens of the woods of Cuba, polished.

Spain.

In Portugal the Administrator-General of Forests shows a collection of samples of woods polished, sections of trees, and illustrations of the turpentine and resin gathering. The forests of the State cover 19,000 hectares. The largest is the forest of Leiria, of 10,000 hectares, in which the maritime pine predominates. There are no statistics of the private or municipal forests. The following was the number of trees in the national forests in 1858, without counting the forest of Bussaco, which covers nearly 1,000 hectares:—

Portugal.

Pins-sauvages	46,757,742
Pins-pignons	12,900,356
Oaks	25,070
Green oaks	295,376
Chestnuts	126,384
Yews	2,500
Pistacea	2,100
Plane	100
Poplars	418
Willows	100
Mulberry	2,820
Exotic trees	62

The pine is the principal tree of the forests. The wild pine (Pinus maritima) covered, in 1858, 14,515 hectares, and the stone pine (Pinus pinea) 2,182.

Close to the forest of Leiria there are the following establishments worked by the Government.

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Portugal.

1. A factory for preparing resin, where 120,000 kilogrammes of excellent quality are produced annually, which sells readily in the country, at Hamburg, in England, and Holland. About two million kilogrammes of resin might be made here annually.

2. A timber yard for injecting wood by Boncheni's system, where are prepared millions of posts for telegraphic lines. From twelve to fifteen millions are injected annually, that is. about 1,100 cubic metres of wood.

3. A tar manufactory, which supplies the marine arsenal, the State rope factory, and a part of the home market. Between 1860 and 1865 198 vessels were built in the three maritime departments of this kingdom.

There is a frame with upwards of a hundred samples of polished veneers, and a good collection of cork bark, rough and manufactured. Portugal also exhibits woods in a pavilion in the park devoted to the display of the products of its colonies. In the centre of the building a trophy is erected of samples of wood from India, Angola, Cape Verde, and St. Thomas, all well named. There are chairs made of the leaf-stalks of palms, fancy baskets of dyed palm-leaf, gourds, &c. In four corner glass cases are good collections of fibres and articles made from them, and in bottles are extensive collections of the gums and resins of commerce, the animi, copal, arabic, caoutchouc, &c.

Prussia.

Prussia and the German States of the north exhibit little of importance in woods. Prussia has nineteen exhibitors, mostly of tanning-bark, sabots, and wood planks. The Grand Duchy of Hesse shows seeds of forest trees.

The forests in the old provinces of Prussia cover nearly 27 million acres, 1,243 square miles, or about one-fourth of the total area. If we add to this about five million acres for Hohenzollern and the newly annexed provinces, the total is brought up to nearly 32,000,000 acres of woodland. Hanover has about two million acres of forest, the principal being the Harz, Lunebourg, and Hildesheim. After Hanover comes Electoral Hesse, whose fine trees cover 1,500,000 acres. The net revenue from the forests to Prussia now exceeds 750,000*l.* per annum. The shipments of wood from the port of Dantzic alone in 1865 were valued at 4½ millions of thalers (3*s.* each). Much has been done of late in Prussia to develop the forest resources by the establishment of numerous special normal schools for diffusing information on sylviculture.

Austria.

Austria makes one of the finest displays of wood in the Exhibition. Its magnificent wood trophy is erected in the park, near the Ecole Militaire entrance. Noble stems and planks are piled up in all shapes, combined with saws, axes,

Austria.

and other tools and implements of the woodcutter. There are very fine trunks of Abies excelsa, A. pectinata, Quercus pedunculata, and other noble forest trees.

A shed close by is also filled with oak planks, scantlings, &c. of very large size and fine quality. Some Austrian woods are also shown in the building, in the raw material gallery, near the machinery court. Rosmanich, Balto, & Co., of Hungary, exhibit veneers and sections of furniture wood. E. Weiler, of Vienna, an ornamental case of veneers, plain and stained, and Hungarian ash for sounding-boards; Domaine Felscher (79) sections of trees; E. M. Podany, of Vienna, stained and ornamented veneers for fans, brushbacks, and marquetry work. Theod. Mullner (41) has a good stand of resin products, with the tools and utensils appertaining thereto: George Hirschler, of Agram (63), veneers of dark woods. There is also a case of wood-paper pulp, and samples of the woods from which it is made; but this article is referred to class 59. Some of the woods shown here have the barks and lichens on, and are exhibited in the form of books lettered at the back, as in the Russian department.

Mr. Joseph Pfeifer, of Vienna, is a large exhibitor of oak from the immense forests of Sclavonia, Croatia, and Hungary, having steam saw-mills at Naschie, in the first-named district. He shows staves and bottoms for constructing a cask to hold 20,000 gallons. The 56 staves are about 15 ft. long, and 27 head and foot pieces 27 ft. long. They were cut with the axe, in 1863, in the forest of Naschie, from trees 400 years old. The wood being well seasoned, by remaining in the forest four years, the cubic metre does not weigh more than 660 kilogrammes. This exhibitor also shows veneers, planks, and staves suited for French and German casks, &c.

The State possesses in Austria about 8,000,000 acres of forest land, of which two-thirds are under the administration of the Minister of Finance, and the other third under that of the Minister of War. The State Forests comprise about 19 per cent. of the whole superficies of the woodlands of the empire. A small pamphlet, prepared by order of the Minister of Commerce and Political Economy, by Mr. J. Wessely, furnishes some interesting details of the forest riches of Austria. The total export in 1865 was 148,710 steres (of 35⅓ cubic feet) of firewood, and 1,672,291 steres of building wood. Adding to this the wooden rafts and boats which are usually broken up for firewood at the end of the voyage, and the wood used for carpentering, &c., the total is set down at 1,890,000 steres, valued at 3,000,000*l.* sterling. But this forms but a fractional part of the unworked and undeveloped riches of the Austrian forests.

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Austria.

The provinces of Austria, which principally furnish wood for export may be divided into three groups:—

1. The country which borders on the Adriatic, and where the export of wood is principally by sea to the ports of Austria and Italy.

2. Galicia and Berkovina, which send their timber partly to Russia and Prussia by the Baltic, and partly to Moldavia, Southern Russia, and other countries by the Black Sea; and

3. The country of the north-west, which sends its wood by railway to the sea.

Wood pulp.

In a separate building in this part of the park was also to be seen the process of making wood pulp for paper on one of the large machines constructed by Decker Brothers and Co., of 50-horse power, working the process of Mr. Henry Voelter, of Heidenheim, Würtemberg. The exhibitor, who was the first to carry on the manufacture, has developed it on a large scale, and greatly reduced the price of all kinds of paper, by introducing from 30 to 60 per cent. of wood pulp into the fabric. He exhibits in Class 7 (2), a very large collection of various kinds of paper from wood; all white woods are available for the purpose. There are more than 30 paper-mills in Germany working up wood pulp, and there is not a journal now published there which does not contain more or less of wood pulp in the paper used.

Pamphlets.

It may not be out of place to add here a list of some of the most important pamphlets published on wood in connection with the Exhibition, although many of these are scarcely to be obtained now. I found many of them very useful in my investigations as a juror in this class. "Catalogue Raisonné des Collections exposées par l'Administration des Forêts" of France. "Notes on the vegetation, indigenous and introduced, of Australia, by Dr. Muller." "Catalogue des Végétaux Ligneux du Canada, par l'Abbé Brunet." "Les Richesse Forestière D'Autriche et leur exportation, par Josef Wesseley." "Catalogue descriptif des espèces de Bois de l'Archipel des Indes Orientales, exposées par W. L. Sturler." "Aperçu de la Végétation des Plantes cultivées de la Suède, par N. J. Andersson." "Quelques mots sur les Bois du Brésil," and "Breve noticia sobre a colleccão das Madeiras do Brasil," both by J. de Saldanha da Gama. "Notice sur le Palmier Carnauba, par M. A. de Macedo." "Tables of the results of a Series of Experiments on the Strength of British, Colonial, and other Woods, by Capt. F. Fowke, R.E." "Catalogue des Produits envoyée de Trinidad par Dr. Court." "Catalogue des Produits des Colonies Français." There were many other small pamphlets and notices issued, but those cited were the principal ones.

The recompenses given in this Class by the jurors as announced in the second edition of the award book were—

Number of Medals.

Hors concours - - -	25
Gold medals - - -	10
Silver Medals - - -	29
Bronze medals - - -	60
Honourable mentions - -	88
	212

Awards to British exhibitors.

The following is a list of the honorary awards made to exhibitors in this Class.

Hors Concours.

New South Wales Commission.—Woods for building purposes.

Government Commission for British Guiana.—Collection of woods for shipbuilding and cabinet-work.

Government Commission for Queensland.—Specimens of woods.

Rajah of Mysore, East Indies.—Collection of decorative woods.

Madras Presidency, East Indies.—Samples of woods.

Gold Medals.

L'Abbé Brunet, Quebec.—Collection of woods, herbal, and photographs of trees and plants.

J. C. Taché, Commissioner for Canada, as co-operator in this Class.

Silver Medals.

Office of Inspectors of Woods, Quebec.—Collection of timber for commercial purposes.

John Millar, Montreal.—Extract of bark for tanning purposes.

Bronze Medals.

E. C. Eadon, Montmorency, Canada.—Buckets, tubs, and utensils.

Science and Art Department, London.—Samples of woods experimented on.

C. J. Schearer, Montreal, Canada.—Doors and windows made by machinery.

Queensland Commission.—Collection of woods for cabinet-work.

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Royal Commissioners of Victoria. — Woods for building purposes.

Hamilton Brothers, Hawksbury, Canada.—Samples of woods.

Honourable Mention.

Shaw Brothers, Natal.—Native woods.
P. Paterson, Natal.—Native woods.
Russel & Co., Natal.—Native woods.
Landsberg, Natal.—Native woods.
M. H. Marsh, M.P. for Salisbury.—Collection of Queensland woods.
John Cuthbert, Sydney.—Samples of woods for cabinet-making.
Johore Company, Singapore.—Collection of woods.
Nelson, Wood, & Co., Montreal.—Basket work.
Isidore Champagne, Canada.—Sections of trees.
Agricultural Society, Cape Town.—Samples of native woods.
Dr. Meller, Mauritius.—Samples of native woods.
W. Jolly & Co., New South Wales.—Samples of woods and cabinet-work.
J. Dexter, Nova Scotia.—Specimens of woods and cabinet-work.
J. Bosisto & Co., Richmond, Victoria.—Essential oils.
W. H. Slater, Nunawadin, Victoria.—Essential oils.
Hagar & Co., Montreal.—Household utensils.
S. Norman, London.—Wooden boots and clogs.
S. Westlake, London.—Veneers of choice foreign woods.
L. Brown, Leicester.—Timber bent by steam.
Luc Plouffe, St. Martin, Canada.—Axe handles.

Conclusion.

In conclusion it may be stated that much valuable information was afforded to the public by the magnificent display of woods, brought together from so many different and distant quarters, at enormous expense to the several countries. Much useful information was also circulated, and diffused in one form or another respecting forest products. It is, however, much to be regretted that the valuable descriptive and statistical details, scattered over so many special catalogues and pamphlets could not be concentrated into some convenient volume of reference, as there is a great want of a comprehensive work treating on the forest products of the world.

Mr. Webber on Forestry.

Report on Timbers and Forest Produce exhibited in the Universal Exhibition at Paris, 1867, bearing on the value of Forestry, and the uses of Foreign Timbers compared with one another, supplementary to Official Report on Class 41, and to Capt. Fowke's Report on previous Exhibitions.—By T. W. Webber, Esq., Forest Depart. N. W. P. India.

Heads of Report. Forestry and the study of timbers by universal comparison of their properties.

1. In the preceding Official Report on Class 41, by Mr. Simmonds, sufficient notice has been taken of the various exhibits from all countries of this class to make further enumeration or description unnecessary.

It will therefore be supposed that those interested in the class are generally acquainted with what is exhibited in Paris, as also with the results of Capt. Fowke's experiments on various timbers brought together in former exhibitions. Supplementary to these attention is here called to the objects and value of systematic forestry, and secondly, the study of timbers and their qualities by universal comparison, with notices of the many collections now in the Champs de Mars, which might afford specimens large enough for experiment, so that by degrees all the timbers of the known world may be compared together, and their qualities made known by a uniform system of testing.

Importance of testing timber on one universal system.

2. It is remarked that the importance of this comparison cannot be over estimated, as in the colonies and distant timber growing countries means for experimenting are not available to the parties who could develop the hidden resources of those countries, and, if they were, the results would not be so valuable as those given in a universal series of experiments conducted on one principle and by the same hand, and with the attention afforded under Government sanction and ablest scientific supervision, and with specimens which have been prepared with care for an exhibition, and necessarily seasoned in their transport to Europe.

The experiments carried out so ably under the late Capt. Fowke, R.E., are therefore most highly valuable to the world, as an analysis of them will show, but it will also give evidence that his system of research is only in its infancy, and of the great importance of extensively prosecuting it.

Forestry not obsolete.

The iron age of the world has not yet passed, as the enormous display of its every imaginable use would argue, but the steel age has at least commenced, so that our going back to the wooden or stone periods may seem rather a

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recurrence to the barbaric stages of the world's history; but though our palaces are built of iron, and our iron roads are traversed by the iron horse of almost winged speed, and the produce of our iron machine wheels sold to all the world by signals through the iron wires which encircle it, and our very floating ships are built of iron, yet there is no reason that we should neglect the great riches of woods and timbers, and refuse to become acquainted with the qualities of the numberless trees which fill the vast unexplored forests. The fitness of iron for different uses is not so varied as that of timbers, and though the use of wood is more antique, it is not obsolete, and it enters into the thousand objects of daily necessity never to be dispensed with.

It may be questioned whether wood is not more important to man than iron, and should timber at any time through its reckless destruction become exhausted, the effect would be irreparable.

Hitherto, in the world's history, its natural production has been greater than its consumption as a necessary to man, and its destruction by clearance of the forest has accompanied the advance of men. In Europe a pause has been already found necessary, and for several centuries Government has interfered to protect the forests. When it is remembered that coal is originally a vegetable production, and that we are now consuming per century the formation of periods immensely greater before the world was peopled, in fact eating into a reserve of fuel which many million years would probably be required to replace if once exhausted, the importance of pausing in the clearing away of forests is palpable.

The fact that forests covered a primeval earth for a period of which we have evidence of its vastness, and flourished and died unseen in a manner preliminary to its present economy, is the fact, without which there would not be power to produce iron, or develop its uses as they are now developed.

Therefore, we must not throw over our old "wood" as obsolete, and no longer necessary, or superseded by "iron," lest some day "wood" may desert us, and iron become useless for lack of fuel to work it.

Forests may become exhausted.

4. In other countries besides Europe, not long since covered with dense forests, where the constant cutting of timber has been going on, it is already found that timber is getting scarce, even for present use, and no thought has been taken at all of the future. India, the great country of jungles, has awakened and established a system of forest conservation, but not until pine had to be imported from Norway for sleepers. America still boasts of her inex-

haustible forests and her vast clearings, and goes on hacking away. A Californian sawyer who has made his fortune in 10 years out of 100 acres of forest grant, picked on the bank of a navigable river, will tell you that the timber is inexhaustible, that his saw-mill still stands in a forest so dense that you would scarcely know a tree had been cut. And that since he came there every facing to water carriage is occupied by parties who are at work clearing their grants. But these are bare statements. It is thus that all available timber gets carried away or destroyed in the most magnificent forests, and a period comes when it is found that all the trees are cut down, and none have grown to replace them. Such a probability would have been laughed at in India 50 years ago, yet now it has actually occurred in some of the finest forests. When too late it is found that timber has a greater value than what it will actually sell for in a forest where there is abundance and a demand only for present supply, no account being taken of where it is to be obtained after that supply is exhausted, and what price it will then fetch. Therefore, systematic forest management cannot be too early set a going in a new country, based upon the principles which have been tried with the most beneficial results in European countries, and matured into almost a science after several centuries experience.

Systematic forest management adopted by European states.

5. In France and Germany forestry is one of the State professions of the highest scientific character and regularly filled from the better and educated class who are trained for the purpose. It will give some idea of the importance attached to forestry in these countries, that France has 2,700,000 acres of State forest, revenue 1,740,000*l.*, in the conservation and management of which 500,000*l.* is annually expended. Prussia has 5,070,000 acres, Bavaria 1,962,000 acres, while the forest area of Austria is 13,000,000 acres, with an export value of 3,000,000*l.* sterling annually realized.

In Bavaria there exists a school of forestry at Aschhaffenburg on the Maine. Here candidates for the State Forest Service (as well as many students from other countries) are trained for their profession, to which none are admitted but young men of good position and highest general and special education.

The time of training, comprising periodical and strict examination, extends over five years, one half of which is given to a practical apprenticeship in the State forests, and previous to its commencement a general proficiency must have been obtained in science and arts as taught in the highest public schools.

The special course consists of lectures on forestry, manage-

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ment of forests, improvements and planting operations, division of forests into blocks, valuation surveys, determination of the length of rotation, and the possible yield of a forest within the limits of its maintenance; the arrangement and carrying out of methodical working plans, the preparation, transport, and sale of timber and other forest produce.

Natural Sciences, including natural philosophy and history, botany, chemistry, zoology, and geographic distribution and physiology of plants.

Mathematics, pure and applied, with engineering, mechanics, surveying, and Forest Legislation.*

The students who pass the final examination are qualified for appointments in the Bavarian State forest service.

In France a similar college exists at Nancy, where 30 to 40 young men are trained for the State service. This consists of "conservateurs," whose pay is 8,000 f. to 12,000 f. a year, with three inferior grades of officers, altogether 849 conservateurs and inspecteurs, under whom the "Gardes Generaux," numbering 3,500, perform the work of the various Government forests all over France. This service is ruled by the "Bureau Central de l'Administration général des Forêts" in Paris.

There are also forest schools at Hanover, Neustadt, Eberswalde, near Berlin, Thurant in Saxony, and at Eisenach, as well as in other countries of Europe possessing State forests.

Forest management is in most countries imperative. For new countries advisable.

6. These facts will show the importance attached to forestry in the countries where the human race has reached its utmost maturity of population and civilization. It may be argued that for that very reason systematic conservation of forests has become necessary, whereas in less advanced regions it would not be so. The forests, on the contrary, require there beating down and driving back before the march of man. Experience, however, is beginning to prove that conservation is, even in thinly peopled countries, soon necessary, as it has become imperative in Europe. There, by it, forests have been restored to an area of correct proportion to the cultivation of the country; an area in Northern Europe far greater than would at first sight seem necessary, especially as coal supplies much of the fuel. Systematic conservation has also increased the production of timber in these countries so much that the supply is sufficient for home consumption and also for export to other countries. From Norway, Russia, Austria, and other places, there is a very large exportation of timber annually, yielding a considerable revenue to those states.

* *See* Report by Dr. Brandis, Inspector-General of Forests to Government of India, Sept. 1866.

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7. Under British rule India has lately begun to look after her valuable forests, but not until most of the teak and sal districts had become unproductive from reckless cutting, and a scarcity and consequent high price been the result. These two timbers, which, with oak and two others, rank No. 1 at Lloyd's for ship building, are only found in our Indian possessions, and an idea may be formed of the importance of forest conservation from the facts put forward in the Report of Dr. Brandis, Inspector-General of Forests in India, that the average of first-class teak trees found in a normal uncut forest at Beeling was 14 per acre, while over the entire area of Government teak forest, lately taken into management at Maulmain, 552 square miles in extent, the first-class trees which remain standing are only 15 in 10 acres, while stumps and damaged trees everywhere abound.*

In India conservation has been found necessary when its forests were nearly exhausted.

The sal forests of Upper India might be shown to be even in worse plight through reckless cutting and utter neglect. There were in 1830 probably 4,000 square miles of purely sal forests along the foot of the Himalayas, besides those in central India available to Government. The sal timber is almost the only one found capable of standing the Indian climate for railway uses, yet now the East Indian railway has been obliged to import pine sleepers from Norway, sal being scarcely procurable. Government has therefore become alive to the importance of forest conservation in India, it being almost too late, and the work of the New Forest department will be for many years that of restoring rather than working the magnificent jungles of India. Let it be remembered that 40 years ago these forests were mostly untouched by man and supposed to be inexhaustible. Now they are simply worked out regardless of future production. My object has been to urge the immense importance of the study and practice of foresting by alluding to what has been effected by it in Europe, and how its neglect has worked in Asia; I would now bring forward another subject.

The importance of the study of timbers and their respective qualities.

8. Xylology, if we may give it that name, has obtained special attention of late years in England, where there are peculiar facilities for, and inducements to, studying the subject, owing to the immense number and variety of untried timbers found on the sea board of her extensive colonies. And at the international Exhibitions of the last 10 years fresh collections of timbers from every part of the world have supplied the means of comparison and research.

By Captain Fowke, R.E., upwards of 3,000 specimens, and 600 kinds of timber were experimented on. At the present

* Progress report of the Tenasserim and Martaban forests 1859–60.

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Paris Exhibition a still finer collection is brought together of over 3,000 *different kinds* of timbers, many of them never brought before to Europe. The opportunity of testing them will not, I believe, be lost by England.

A few examples of analysing Captain Fowke's results, taken from timbers of proved excellence (*vide* Lloyd's list).

9. An analysis of Captain Fowke's catalogue is most interesting, bearing on the known value of timbers and their qualities found by experiment, also upon the distribution of the first-class timbers geographically. Timbers are classed at Lloyd's for ship building as follows (no surer practical classification exists, as it is the result of many years experience of durability and strength):—

CLASS I.—12 years' durability.

1. Oak	Quercus Robur	Europe.
2. Live oak	Quercus Virens	North America.
2. African oak	Quercus Africana	Africa.
3. Teak	Tectona Grandis	East India.
4. Morung Sal.	Shorea Robusta	East India.
5, Mora	Mora Excelsa	British Guiana.
6. Greenheart	Nectandra Rodeii	British Guiana.
7. Iron bark	Eucalyplus	Australia.

East India produces two first-class timbers, South America two, North America, Africa, Oceanea, and Europe, each one. Ever since "Robur" has been synonymous for "strength" oak has retained its place as first in the rank of timbers for strength and endurance. Its qualities are so well known that it might be the standard of comparison for all timbers. Unluckily Captain Fowke's experiments do not include any number of trials on oak, the average result of which would have been most valuable; and his trials of teak, the next practically well-known timber, are few and unsatisfactory, but still the following comparisons may not be erroneous.

1st class timbers at Lloyds'.

10. Let us take the qualities, specific gravity, breaking weight in lbs., and crushing weight in lbs. Capt. Fowke's Tables No. I., III., and V., give these qualities for 539 different woods arranged in order of their excellence in each respect. If we look out the above-mentioned first-class timbers in Capt. Fowke's list we find,—

Oak	Spec. grav.	·930
Breaking weight	lbs.	4,256
Crushing weight in direction of the fibres	lbs.	4,280
Teak	Spec. grav.	·695
Breaking weight	lbs.	4,032
Crushing weight	lbs.	6,571
Saul	Spec. grav.	·884
Breaking weight	lbs.	6,720
Crushing weight	lbs.	8,624

Oak is the heaviest of the three, and weakest under both

transverse and crushing strains, and is surpassed by 300 out of the 539 timbers tried, while teak is but low on the list in both these respects, being not half way up. Sal is a little higher only, but their enduring properties and the size to which these trees grow and their straight long grain are qualities in which they are unsurpassed.

The colonial 1st class timbers.

11. The next three on the list are colonial timbers, two from British Guiana and one from Australia. In Capt. Fowke's tables they are found thus entered:—

Mora	Spec. grav. ·961
Breaking weight	lbs. 9,697
Crushing weight	9,920
Greenheart	Spec. grav. 1·089
Breaking weight	lbs. 12,215
Crushing weight	15,432
Iron bark	Spec. grav. 1·193
Breaking weight	lbs. 11,158
Crushing weight	12,264

Greenheart "Nectandra Rodiei," called "Sipiru" by the natives of Guiana, is remarkable for its durability as well as for being one of the strongest timbers yet tested. It was found to yield only under the enormous strain of 12,215 lbs. on a bar 1 foot by 2 inches square, 11,158 lbs. being the greatest breaking weight attained in the other series of 3,000 experiments (that of Australian iron bark). In resistance of crushing strain Greenheart is No. 4 on the entire list. Its growth is described as free and erect, and its grain fine and even. It is "very abundant within 100 miles of the coast, "and its timber, squaring from 18 to 24 inches, may be had "without a knot from 60 to 70 feet long." A tree of this great size, possessing a grain so fine, is most remarkable. Some idea may be formed of its strength and elasticity from the fact that the best fishing rods sold in London by Gowland, of London Bridge, are of greenheart. In the catalogue for British Guiana of the present Exhibition, at page xcvi., an interesting table of specific gravities is given in which greenheart is put down at 1·210 and Mora at 1·029. These forests also produce the mora excelsa, described as the most majestic tree of British Guiana, attains a height of 100 to 150 feet. It is so tough that "were men-of-war ceiled with this wood "little mischief would be occasioned by splinters during "action." It is also said to be exempt from dry rot, and to "be so abundant on some of the rivers that the whole of the "British navy might be reconstructed merely from the trees "which line the banks." Mora has a somewhat greater specific gravity than oak. In transverse resistance, it is found No. 6 on the entire list of timbers, and in tenacity it comes very high indeed. A considerable export trade in

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timber has naturally arisen from British Guiana; but forest management or conservation has probably not been thought of as yet. Mr. Holmes, the Commissioner for British Guiana, in 1855, inserted the following remark:—

"The colony is intersected by numerous large rivers navigable for vessels of large burden, which can thus penetrate into the heart of primitive forests, capable of affording an unlimited supply of timber, and as in many parts of the *colony the trees are cut down in the immediate vicinity of these rivers* and creeks, the cost of the wood which has been given (1s. to 1s. 6*d.* per cubic foot), wherever it could be ascertained, depends alone on the price of labour for felling and squaring."

Question as to the possibility of exhausting these forests.

12. This was written 12 years ago. What that period has effected in the clearing out of these two first class timbers from the banks of the navigable rivers, if not all through the accessible forests, and the consequent rise in the price of the timber, is not ascertained. It is the old story of unlimited supply with a reservation, which after 40 years' unlimited cutting may turn out to be, that all the fine trees, except those in inaccessible places, are cut down, and that it takes 200 years to grow a fresh supply, which supply might have been brought up in the 40 years, had a system of rotation, well known in Europe, been from the first adopted. That it is possible in a short period, comparatively, to exhaust the most boundless forests, I would call to witness the case of the chincona tree.

Of this there were several kinds growing thickly over tracts which cover 10 degrees of latitude on either side of the Equator. It is not so many years since quinine became the valuable article it now is, and already these forests are said to be nearly exhausted, and to supply the demand for quinine it has been considered worth while to carry chincona plants to India, and plant them there in gardens. The last of the first-class trees, at present so rated, is iron bark, the well known gum tree, one of the Eucalypti of Australia. Of this there are several kinds apparently, but the best seems to be the white iron bark. All experiments place this tree at the top of the list for strength and toughness; its weight is very considerable, being one-fifth greater than water. Its durability is probably the greatest of known timbers. It is abundant all over the Australian continent, and grows erect and with bare stem to an immense height, averaging 150 feet. Its grain is long and coarse, and for a timber of construction it is unsurpassed. Including several species called iron bark, Dr. Ferdinand Mueller, director of Botanical Gardens, Melbourne, mentions 98 different kinds of Euca-

lypts found in Australia, to which, in his notes on Australian vegetation, botanical names are given. He also states that one species, "amygdalum," a tree of very rapid growth, occurs frequently 420 feet high. We are told that the hardwood forests produce, besides the gum trees, innumerable other timbers of great strength and durability. Truly, here is a field for research and profitable labour, unheard of in other countries! To ascertain the value and qualities of these numerous timbers would be most interesting and useful. Something has been attained by Capt. Fowke, and the subsequent experiments, but very much remains to be done. The above observations on the eight first-class timbers at Lloyd's, are given to show what can be said in comparing the results of the tests they have been subjected to.

13. The botanical names and geographical distribution of the other timbers in Lloyd's list, are given thus:— The other timbers used at Lloyds'.

Class 2.—10 years' durability.

1. Mahogany	"Swietenia Mahogani"	S. America.
2. Sabiou	"Lysoma Sabiou"	Cuba.
3. Pencil cedar	"Junipersus Bermudiana"	
4. Augelly	"Andera inermis"	Trinidad.
5. Venatica	"Persea Indicus"	Madeira.

Class 3.—9 years.

1. Spanish chestnut	Castania Vesca	Europe.
2. Blue gum	Eucalyptus Globatus	Australia.

Class 4.—8 years.

1. White oak	Quercus Alba	N. America.
2. Chestnut	Castania	N. America.
3. Stringy bark	Eucalyptus Gigantea	Australia.
4. Red cedar	Juniperus.	

Class 5.—7 years.

1. Pitch pine.		
2. Larch	Abies Larix	Europe.
3. Hackmatack	Larix Americana	N. America.
4. Juniper	Juniperus.	

Class 6.—6 years.

1. Cowdii pine	Dammara Australis	Australia.
2. Huon pine.		

Class 7.—5 years.

1. Baltic pine. 2. American red pine.

It is interesting to note the results given by testing the above practically known kinds of timber. They show that many of them though falling off in durability possess qualities for easy working, and combine strength with lightness, which makes them peculiarly fitted for works of construction.

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Further illustration of the importance of testing and comparing the results is unnecessary.

Question as to the value of testing, and how the results may be made reliable.

14. Given two timbers of equal tenacity and transverse strength and specific gravity, it does not follow they are equally good. But the quality and straightness of grain and character for durability being ascertained, it is a very fair criterion as to the fitness of the timber for a certain purpose. That numerous discrepancies occur in Capt. Fowke's list, such as the same timber appearing in several places in the list under a different local name, and with a considerable difference in the results under experiment would lead one to suppose that the results are unreliable, and that testing timbers for strength is fallacious.

By way of example, if we look up these well known Indian timbers, in the list we find in Table III. the breaking weights put down thus differently :—

	lbs.
"Saul," Shorea Robusta	6,720
Lower down	3,464
Sâkhoo, "Shorea Robusta"	4,714
Teak, Sagoon, "Tectona Grandis"	4,632
Seba, Sagoon, "Tectona Grandis"	3,192
Sissoo, "Dalbergia Sissoo"	6,216
Sissoo, "Dalbergia Sissoo," again	5,376
Tine, Dalbergia Sissoo	3,780

Discrepancies accounted for.

15. This is easily accounted for, because collectors of specimens for exhibitions employ natives, who often, to save trouble, cut the slabs out of small trees containing sap-wood, or at best immature timber, or again out of the stem of some dead, fallen, and semi-decayed tree. Again some specimens are seasoned in large logs, and then cut out, others are cut out green and dried quickly. All these conditions affect the strength and excellence of the wood, and make experiments often worthless; but a greater number of trials on slabs cut from full grown trees, and seasoned slowly in the block, will not be found to differ much. From this may be argued the importance rather of going on extensively with experiments, and using every exertion to procure large and properly seasoned specimens.

The present Exhibition is a famous opportunity, as considerable improvement is observable in the qualities of the specimens, especially those from Austria, Brazil, and Mysore in India, as well as Canada and the colonies.

Exclusive use of timbers for certain purposes.

16. While on the study of timbers, the hundred and one uses to which timber is applied is an interesting subject, and why it is that with so many apparently like kinds to choose from manufacturers generally select one species exclusively for a certain purpose, and stick to it, at least so long as it continues sufficiently abundant. It is probably the case that

long experience has made evident the subtle qualities of each; the very best for its particular use, and though many other kinds may be nearly as good, the best will always be used, the labour of cutting out being the same. Oak being known as the timber used by his ancestors for spokes, the English wheelwright is obliged to put oak in his wheels, or his customers would not buy. Similarly there is an instinct in the wild jungle man of the Indian forest, who lives in the trees and has no settled home, to chop down the teak, if he only wants a handle for his axe, while he puts down all the other species in one category as "kutcha" and worthless. A like remark is made by Mr. McArthur in his notes on the Australian timbers exhibited in 1855. He says, regarding the cedar (*Cedrela Australis*), "The common use of this "wood in joiners' and cabinet work, and its extensive im- "portance to the neighbouring colonies and to Europe, have "induced the sawyers to penetrate into every nook from "whence sawn timber could be dragged out. But in seek- "ing out this particular tree they would appear to have "neglected all the rest." The other kinds of cedar brush trees are described as of unknown number and of excellent quality as a rule. These, however, are practically ignored as timber trees at all.

Instances of the established uses of particular timber.

17. A curious instance of the way in which particular timbers hold their own for exclusive use is that in these days of small arms, when each nation is vieing with its neighbour in the perfection and extensive adoption of new rifles, the stocks, which in match-lock days were walnut, are walnut still. It is probable that among the numerous kinds none have exactly the qualities possessed by walnut for gun stocks, *i.e.*, strength, toughness, and a certain weight. Similarly, box, of which there is a large trade from the Eastern Mediterranean, is used for wood engraving and tool handles; pine, from the mountains of central Europe, for sounding boards of musical instruments (there are nine exhibits of sounding boards in the Austrian section alone). The fronts of violins are made of this pine, and their tone and value much depends on the excellence of the wood.

The different properties of timbers as propagators of sound is most curious as well as important to the makers of stringed instruments, and has received much attention from them, as their manufacture, especially that of pianofortes, is a most extensive one. Organ builders also have tried and adopted different kinds by which beautiful modifications of tone are produced.

Beech, a not much valued timber commonly, possesses

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peculiar properties which make it most important to the mechanic for certain tools, and for the facing of cogs in the driving wheels of steam engines it plays a most useful part, and is found to stand the enormous friction of the iron which it works against better than brass or iron itself. It also has the property of continuing sound under water for a very lengthened period. The uses of oak are too numerous to mention; its great durability, when exposed to all weathers and wear is its valuable feature, and sufficiently known to make further instances unnecessary. A collection of facts illustrating the time which oak timber will continue sound in building or marine construction would be most useful and interesting. A case of specimens of oak cut from different old ships is exhibited among the marine constructions, but without description. Prussia also exhibits examples of decay of oak. The ages of oak trees on record compared with that of other kinds, and the rapidity of their growth in various soils, latitudes, and positions, is also a most interesting study in itself.

Also the various methods of rendering timbers durable by driving out the green and noxious sap, and introducing preservative mixtures into the grain, are important. It is now nearly ascertained that by such processes the lightest deals may be made to last as sleepers, even in the tropical climate of India, as long as the most durable kinds. There is an interesting collection of specimens exhibited by Dorsett and Blyth,* showing the condition of sleepers of deal impregnated with sulphate of copper, after several years wear under heavy traffic. The results are highly satisfactory. The importance of this discovery for a country like India, where strong light timbers abound (close to the lines of railway), but which otherwise would not stand one rainy season, is obvious; on the East-Indian line creosoted deal sleepers have been tried with excellent results.

Finally, with reference to the hundred and one uses of woods and the extensive trades which employ each its particular sort, attention may be called to a few of the many exhibits in the Exhibition, such as the manufacture of corks from "Quercus suber," baskets from "Salix" "Bambusa," wood pencils from "Juniperus," wooden shoes, of which there are considerable exhibits from parts of France, chair-bottoms of cane; casks, beer barrels and tuns of oak, of which there are very large quantities made in France, Germany, and England, by which countries specimens are exhibited. The

* 12, London Street, Fenchurch Street, London.

cask-making machine, used in Bass's brewery, is a most perfect and valuable contrivance.

There are exhibited felloes and spokes of wheels cut in a machine and the whole fitted together. Gun carriages which have to bear the great strain of heavy ordnance in various changes of climate and over every country. Ornamental carving, furniture, cabinets, for making which a great supply of veneer wood is required, of which mahogany from Honduras still forms the staple, over 30,000 tons being annually imported to England; but birdseye maple and several American kinds are also in much use. Specimens may be also seen of articles of extensive trade and nice manufacture which require their particular woods, such as toys, billiard cues, cricket and raquet bats, bows and arrows, violin bows (of which one of great excellence may be worth 10*l.*), ramrods, pipe stems, boot-pegs and lasts, saddle-trees, fishing-rods and apparatus, oars and sculls, boats of all kinds, blocks and pulleys, masts and spars (of which one may fetch 100*l.*), carriage pannelling and shafts, tool-handles, bandboxes, packing-cases, and other articles of trade innumerable. Besides, attention might be called to other products of the forest, to which important and extensive place is given in the Exhibition and in commerce, *e.g.*, gums, resins, and oils, charcoal, tan stuffs, tar and varnish, staples, mattings, and fibres of trees from all countries, without end.

Exhibits of different countries.

18. Having treated generally of forestry and timbers, it may be well to go into the progress made by each country as illustrated by the sections of class 41 in the Exhibition.

France.

19. France exhibits specimens of the typical timbers of Europe. "Quercus pedunculata" and Robur, six "pines," "Abies," "picea," and "Larix," as timbers of construction. A section specimen of oak, "Q. pedunculata," measuring 6 metres in girth and 287 years old, is an interesting illustration of the growth of oak in France, and the system of ascertaining its age by the number of rings. There is also a good collection of ornamental woods, polished, typical of the European kinds, olive, walnut, yew, holly, maple, cherry, elm, poplar, and cedar. The models and illustrations of the method adopted by the Forest Department in the Vosges forests, of getting out mature timber from the pathless recesses of the forest, are most interesting, and worthy of attention by colonial settlers, and foreign workers of forests. The pamphlet called "Les Bucherons et les Schlitteurs des Vosges," par Theo. Schuler, may be had at Rothschilds' Library, 45, Rue St. André des Arts. The slides called chemin de schllite which are constructed

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from the hill forests, down to road or water carriage, are formed of long straight pine logs laid down double, and 3 feet apart like rails, and with smaller transverse pieces laid on top and pegged on roughly, but securely, about one foot apart. The incline of the slides varies according to the ground from 3 to 10 feet per 100, so that men can guide the sledges, on which logs are lashed, at a steady pace. The sledges are 10 feet long, and light enough for a man to carry one up again on his shoulder to the forest. Small timbers are loaded on a single sledge and brought down by one man guiding it in front, but longer logs are lashed on two or more sledges. Thus by a cheap and simple method, the largest trees are brought out of otherwise inaccessible places. France also exhibits corks, resins, basket and coopers' work, and there is an experimental collection of charcoals made from five kinds of oak and 28 other species of trees.

Algeria.

The French colonies begin with Algeria, which exhibits some splendid sections of the African cedar, "Cedrus Atlantica," a tree which may well rival its relatives from Lebanon and the Himalayas. Their grains and lasting qualities seem alike. The Algerian measures 15 feet in girth, and the wood has a peculiar odour when cut. The French appear not backward in utilizing the various kinds of bamboo for basket and mat makings. There is a fine collection, six varieties grown in Algeria, which includes the Nepâl bamboo, or ringal, a most beautiful hollow species, 30 feet long and one inch thick, which comes apparently from the Himalayan stock. It grows in Nepâl on high, cold, altitudes, where much rain and snow falls, and would doubtless grow well in any part of England, where its value would be great, both for basket making and a beautiful underwood. Algeria would produce a quantity of cork equal to the whole of the rest of Europe, of the finest quality. The "Chêne-liéges" forests cover 322,000 hectares, and the present export equals 1,150,000 kilogrammes of cork annually. The oaks used as timbers of construction are "Quercus mirbechii" and "castaneafolia," and there are many beautiful cabinet woods. The total area of forest is 1,444,076 hectares. "Gum trees," "Eucalypli" from Australia, have been introduced with success.

French Guiana.

French Guiana exhibits 130 slabs of splendid timber, of which "Bois violet," "Copaifera bractata," and "Wacapou," "Andira anbletii" are the finest. A table comparing their elasticity and breaking strength with oak and Indian teak is given in the Catalogue as follows:—

	Elasticity.	Resistance to Rupture.
Oak	1,000	1,000
Teak (superior)	2,000	1,920
Teak (ordinary)	1,100	1,330
Timbers from Guiana. Angelique	2,250	1,830
Timbers from Guiana. Coupe	1,760	1,650
Timbers from Guiana. Bois violet	2,250	2,650
Courbaril	4,000	2,825
Beech impregnated with sulphate of copper	1,420	1,100

Showing the excellence of these timbers. The Courbaril, "Hymencœa courbaril," especially. The violet grain of "Bois violet" is most beautiful; also that of the "Wacapou." Some polished doors and a cabinet of the latter well deserve their medal. The "Caryocur glabrum," a splendid yellow timber, is also worthy of notice, besides a dozen other magnificent long grained, hard, and apparently first-class woods, all of which have been tested by the French, as above. The other colonies exhibit large collections, of which quassia from Martinique, vatica from Cochin China, and several kinds (there are 120) from Madagascar, are most worthy of attention. The other French colonies exhibit,—Senegal, 42 kinds, Guadaloupe 130, and Martinique 118. There are, besides, collections of East Indian timbers, and from Réunion. All are scientifically named and catalogued.

Germany.

22. Prussia exhibits the usual European timbers, of great growth and excellence. Bavaria has a good show of deal sounding boards, and light wood cut into matches and thin sheets. One pine stem is exhibited 270 years old, and three metres in girth.

Austria.

23. The Austrian exhibit of forest produce is the finest of the European collections. The white pine sounding boards for musical instruments are unsurpassed; and maple and other veneer woods of beautiful grain are cut so fine that they can be stamped with patterns like leather. In the Park "Abies excelsa" and "Pectinata," exhibited by the Staats Förster-raltung in upright stems 12 feet in girth, and as straight as a mast, are noble examples of the growth of European timbers. The trunks of Quercus pedunculata and Fraxinus excelsior and Abies excelsa are unsurpassed, the first being 80 feet long and 2 feet square. There is one log of oak 13 feet in girth and 6 feet long, without a flaw, and several of the Pinus sylvestris 12 feet long and almost perfect cylinders. These may be exceptionally fine specimens, but, as showing what timber

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ought to be, if properly grown and cared for, they are worthy of the State which transported them to Paris, and of its forest management. It also shows its oak cut into staves for casks, and a method for collecting resin from small and worthless pine trees, which is deserving of description, being economical and calculated to get the utmost yield of this useful product. The bark is stripped 2 feet high the first year and 4 feet the second year, and so on, but only half round the tree, so as not to kill it. Sloping chops are made with a hatchet to conduct the resin towards the reservoir at the butt. In Croatia and Sclavonia, the forests, comprising 2,400,000 acres, seem remarkable for the fine oak which they produce. There are two kinds "pedunculata" and "robur," confounded in commerce, but here distinguished as white and black oak. The former grows tall and straight to an ordinary height of 114 feet, and produces 300 to 500 cubic feet of measured timber, the latter is slower and not so lofty in its growth, but harder, stronger, and superior for naval purposes. The Sapin, "Abies pectinata," is said to attain here an ordinary height of 275 feet (70 metres). The export of timber from Trieste grown in the forests of Illyria, and known as "Trieste timber," is considerable, and it is principally from the "Celtis Australis."

Spain and Portugal.

24. Spain exhibits specimens of Quercus ilex, with a peculiar radiating grain, also of the cork oak; and the Spanish colony of Cuba shows "Cæsalpinia coraria" (black wood), "Acacia arborea" and a beautiful ebony, "Brya ebenus." There is a splendid collection from the Philippines of over 200 kinds. The finest is of the "Bois de Maria," a kind of Pterocarpus, of which two slabs are shown 12 feet by 6 feet wide, and 4 inches thick, of a colour brighter than mahogany, and finer grain. Portugal exhibits 125 specimens, the olive and "Quercus lusitanica" being the best ornamental woods, and, from the forest of Leira, covering 25,000 acres in the Estramadura under Government management, are 80 specimens. Its colonies, Angola and Mosambique, exhibit, the former a good collection, including "Diospyros" (ebony), "Swictenia" (mahogany) Trichostachys, and Zanthoxylon, beautiful cabinet woods, and the latter "Ebeno Escuro" a most beautiful claret and rose coloured timber like a Dalbergia.

Norway and Russia.

25. Norway, famous for its pines, sends from Haneborg and Christiana, fine planks and boards, which deserve their gold medal. Russia has its Government forest administration, its forest schools, and its forest revenue of four millions annually. There everything is made of pine wood. Houses, of light deals and with shingle roofs, furnished with white wooden furni-

ture and utensils, all redolent with tar and turpentine, and excellent for their lightness and cheapness. Mr. Web on Forestry.

26. From Wurtemburg, the machine exhibited by Voelter for paper making out of wood fibre is apparently a most valuable and efficient contrivance. In it, by means of a rotating stone, the wood, principally poplar, is reduced to a very fine pulp, which makes really excellent and inexpensive paper. Wurtemburg. Wood and pulp paper.

27. From Poland, very neat specimens of European timbers are shown cut into books, showing the heart wood, sap wood, and bark, and containing inside the flowers, fruit, and leaf. Poland.

28. From Finland are splendid typical specimens of the well-known Baltic red pine, "Pinus sylvestris," most durable here on account of the cold and rugged country which grows it. One specimen with a grain as close and hard as box, counted 518 seasons, and measured no more than 70 feet in height and 6 feet in girth. This was cut in 60° 50′ north latitude. The "Pinus abies" is more lofty, 100 feet and 7 feet girth, at 160 years of age. The most hardy tree of Arctic climes, the birch, here grows with a grain marked curiously, like elephants' teeth. The forests of Finland cover an enormous area of 2½ million acres, or rather *covered*, for unluckily in this great timber producing country, the too common belief in inexhaustible supply of timber prevailed, and the forests were lately discovered to be desolated from neglect and want of systematic management. It was only in 1859 that the State forest administration was instituted to remedy this state of things, and for many years its work will be one of restoration, an example to other countries of wasted resources. Finland.

29. Italy has a very fine collection of European timbers, among which the classical "ulmus" holds its ancient place. It adds to the ornamental woods "Buxus," "cupressus sempervirens," and the beautiful grained arbutus as well as olive and chestnut, Taxus baccata, Zizyphuss, and Liburnum. This country was early distinguished for its knowledge of forestry and the replanting of trees where old ones have been cut down, as described by Virgil in his Georgics, than which nothing better probably could be written on the subject. Italy. Roumania. Turkey. Egypt.

Roumania excels in yew and walnut, of which woods a table has its gold medal. Turkey has a fine collection, but without European names or catalogue: and Egypt exhibits its "Acacia Arabica," "Salix," "Balanites," &c., each useful in its way.

30. Having seen so much of the old European timbers, which by this time ought to be well known to our side of the world, we enter with advantage on the more varied and America United States.

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extensive collections from the American and other continents abounding with new and almost untried and beautiful woods. The United States, famed for its extensive timber resources, makes but a poor show, Wisconsin and California being the chief exhibitors. From the former pitch pine, white and red pine and cedar, oak, Quercus alba, and curled maple, are the best kinds. The shingles for roofing ⅜ inch thick, and 18 inches long, of which one maker calculates he had turned out 2,000,072,061 up to the year 1860, are good and well suited to their purpose.

California exhibits some very beautiful veneers of its laurel of different shades, but they are stained. Its ash, poplar, hickory, and walnut are magnificent, and the Californian "Big tree," said to measure 96 feet in girth, can never be surpassed in its great proportions.

Brazil.

31. Brazil has, perhaps, the finest show of timbers, both of construction and ornamental work, in the Exhibition, consisting of nearly 300 different species. The specimens, too, are well saved, and cut in sizes sufficient to show the habit of the trees, and properly suited for experimenting. The collection well merits its gold medal. Of the larger sort, the magnificent "Andira ambletii," and "Artocarpus species," are unexcelled, also "Brosimum cordura." There is a plank 4 feet wide of a splendid red timber fit for any furniture, called "Echrospermum balthasarii." The Araucaria and "Cedrela braziliana," are fine light timbers. The "Cordia ancocalyx," has a grain and hardness equal to box apparently, and the "Dalbergia nigra" is a beautiful rose wood. The kinds of acacia and satin wood are equally excellent for cabinet work, as is also the "Hymeneea hieronima" and the Brazil palm. The well-known Brazil wood from "Cœsalpinia echinata," is only one of the many dye stuffs. These forests cover an area one half as great as Europe. The gums, resins, and other forest products are abundant. Venezuela has been awarded the bronze medal for a collection of 82 specimens of exquisitively grained and coloured woods, including a black and rose wood, also a beautiful zebra wood; but the pieces are entirely too small for experiment, and the scientific names are not given. Such collections seem to answer no good purpose. Paraguay has received a bronze medal for a like collection. The woods are beautiful and well worthy of attention. There is a small collection named, including "Acacia angico," "Cordia zebra" and "Cobaifera officialis," which are unsurpassed as cabinet woods. Nicaragua and Costa Rica show small specimens of equally excellent appearance. Haiti shows "Gris-gris," "Acajou," d f ustic, large timbers.

China.

China exhibits four, camphor wood, "Santhal," and

"Corail," the last, a fine grained timber of construction. But its principal industrial product, under Class 41, is Chinese bamboo work, which in that country occupies a position of great importance. Japan, a country known to produce excellent timbers, does not exhibit any. There are, however, some cabinets inlaid with grained woods, showing several beautiful kinds.

England. England, from its maritime position and formation, has fuel and timber always within reach. Hence no great necessity existed for keeping up the forest area, found necessary in other European countries. Hence the forests of oak and fir, which once covered the greater portion of Great Britain and Ireland, have long since given way to the plough, and the soil turned to the production of food for the ever increasing population. Mr. Evelyn, in a well known discourse delivered in 1662, in the Royal Society, "of Forest Trees, "and the Propagation of Timber in His Majesty's Dominions," complains at that date of the extirpation, nearly completed, "root and branch, of all those goodly forests and woods "which our more prudent ancestors left standing for the "ornament and service of their country." And the threatened want of timber for ship building, whereby "one "of the most glorious and considerable bulwarks of this "nation (the navy) will, within a short time, be totally want-"ing to it." That the prophecy of two centuries back has not been realized, is due to our colonial advantages and the use of iron. It shows, however, that the importance of forest conservation had begun to be felt even in England. It was only in the 27th year of Henry VIII.'s reign that the Church lands were confiscated, and their immense forests cut down; and during the Civil War, beginning 1642, many Royal forests, as well as private woods, were entirely swept away. In Ireland it was even later that the forests which covered the south and west, where the stumps of the trees still exist buried under the surface, were cleared, principally for iron smelting. Hence, as Mr. Evelyn's treatise evidences, attention began to be paid to the preservation and cultivation of timber, and the private parks which adorn our country everywhere, were planted, and the supply has been kept up.

English colonies. Canada. It is to its Colonies and Indian Empire, however, that England is principally indebted for timbers of construction; and though English "Heart of Oak" still holds its own for excellence and durability, only a small quantity of it is now used comparatively to foreign kinds. No English woods are exhibited. Amongst colonies, Canada has a very fine collection of timbers of construction, of which the great pines, 50 feet long, and 2 feet square, are noble specimens. The

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collection of ornamental woods is excellently arranged, the slabs being large, and both polished and unpolished. It has been purchased by the Prussian Government. There are 186 kinds altogether, named scientifically, and catalogued. Of the timbers of construction, there is one oak, "Quercus "Alba" (among 6 species). The pines are numerous and excellent. There are "Pinus Strobus," and "Resinosa;" the hemlock spruce ("Abies Canadiensis"); "Picea Alba," American larch; "Thuja" and "Juniperus Virginiana," called white and pencil cedar, besides five other conifers. Of ornamental kinds are many splendid woods, black and yellow walnut, hickory ("Careya Alba"), blistered ash, a most beautiful timber. Also the "Fraxinus Sambucifolia" black ash, hard and soft maple, rock elm and black birch. The importance of its forest produce to Canada is greater than to most countries. As coal is not found in its centre, timber has to be used as fuel, for smelting, and in steamboats and engines, for housebuilding and roadmaking, &c. A quotation from the "Forest Annals" for 1855, shows that the Government of Canada is quite alive to the importance of forest management, and of the present opportunity given by the Universal Exhibition of "uniting in one place all the "products of different countries of the globe, and presenting "them to industry and commerce." For this object, the Canadian collection is most valuable and highly commendable.

British Guiana.

From South America, British Guiana exhibits a fine collection of 38 kinds, of which nine were previously exhibited and experimented on. The "Mora and Greenheart" have already been described. "Silverballi" ("Oreodaphne"), "Simiri" ("Hymenœa"), and bullet tree ("Sapota Mulleri"), are the other timbers of construction, and "Purple Heart" the French "Bois violet" ("Copaifera bractata") is undoubtedly excellent for cabinet work. There is a good deal of furniture shown in the Exhibition of this exquisite timber, beautifully inlaid and polished. It is deservedly becoming fashionable for its rich colour, beautiful grain, and fitness for inlaying. It is possessed of great strength and elasticity, and is said to stand the strain in mortar beds better than any other timber, excepting Greenheart. In the report published in the catalogue a regret is expressed that a larger collection of woods had not been sent to Paris, adding, "It would be "easy, however, to procure samples of most of them, should "any person desire to have them with a view to bringing "them into use." The advantage of proving and testing these splendid timbers, and making them known, is fully appreciated by the colony. If, as already demonstrated, some of

them are twice as strong and durable as oak, it may be advisable in time to work the forests systematically, and preserve them from destruction, so that the greatest present profit may be realized, and a supply secured for the future.

The export of wood from British Guiana has increased from 177,780 cubic feet in 1851, to 816,812 cubic feet in the year 1864. And a trial of over 25 years has confirmed the reputation of these timbers for ship building. The other forest products are numerous and valuable; oils and gums, of which there are 12 kinds, including "Balata," (from the "Mimosops Balata," or bully tree, which has been found to equal gutta percha; 20,000 lbs. of it were exported in 1865), also "Gum Animi." There are several excellent tan stuffs, and 11 kinds of fibres, suitable for cloth or rope manufacture. This country is certainly rich in its vast forests, and Government may do well not to neglect their working, or leave it to chance.

West Indies.

35. Trinidad exhibits "Angelli" (Andera Inermis), a second class timber at Lloyd's; "Cedrela Odorata," a kind of mahogany; Red mangrove, and a satin-grained Stercula, besides excellent teak and other kinds. Honduras does not show its mahogany; nor is there any record of how this most important of timber trades has been effected since the previous Exhibitions nor as to the condition of the forests. The imports to England alone are 38,000 tons yearly. The other West Indian timbers used for ship building are nearly approaching the first quality; they include "Lysoma Sabiou," from Cuba; "Juniperus Bermudiana," as also "Venatica" ("Persea Indica"), from Madeira. Bahamas show, "Lignum Vitæ," zebra, ironwood, and pine of good quality.

Africa. Cape of Good Hope.

36. From Africa, a country whose central forests are boundless, there are but two collections, from the Cape and Natal. The kinds used at the former colony are worthy of attention, being excellent woods. The largest are "Stink wood," "Oriodaphne bullata," very like oak, and said to equal Greenheart from Demerara, a yellow wood, "Podocarpus Thunbergia" for interior construction. The hard woods are "Vepris Lanceolata" (ironwood) used for sleepers, and "Gardenia."

Olive and Cape box ("Ellastrus buxifolia"), sandal, and ironwood. ("Millettia Caffra") are beautiful grained kinds, fit for engraving and inlaid work. For furniture, saffron ("Eleodendron"), assagai ("Cartissia faginia"), and ebony ("Enclea pseudébenus"), are unsurpassed. A very pretty cabinet inlaid with 24 kinds is also exhibited. Few of these have as yet been tested, and doubtless many other South African timbers might be collected.

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Natal.

37. Natal exhibits 50 varieties, all as yet untested. Here, as at the Cape, stinkwood holds the pre-eminence. Red milk wood ("Mimosops obovata"), is said also to surpass oak for ship building. There is a splendid plank of sneeze-wood ("Pteroxylon utile"), equal in beauty of grain to the best bird's-eye maple. Ironwood, black and white. Saffron "(Eleodendron") and camphor wood are beautiful cabinet timbers, as well as Red ivory wood ("Rhamnus flavescens"). From Western and Central Africa there is nothing, and no gums. Of the latter, those regions send a rich supply to commerce, as shown by C. Clarke and Co., 35 Camomile Street, London, Gum Merchants.

The true "Gum Animi" is from Zanzibar, called fossil, because found in the ground, where it has long survived the trees which produced it. Gum copal, from Angola coast and Sierra Leone, and Gum acacia from Senegal and Mogador. Of these there is a very large export to Europe. Of Gum Arabic alone, much of which comes from Africa, 3,000 tons are annually brought to England. The trade in cocoa-nut oil is too well known to need comment—(10,000 tons of it are imported to England yearly, and other products of this palm, coir, and fibre are considerable articles of commerce). From Mauritius there are 66 sections of woods, 45 of which are indigenous. None of these kinds were tested by Capt. Fowke. The present specimens are unfit for experiment, but longer pieces might be procured.

Australia.

38. Australia ranks first among timber-producing countries, both on account of its extent and variety of climates, and the immense number of valuable trees which are found in its vast forests, numbering, it is said, 1,000 distinct species—726 specimens are catalogued against 408 shown in 1855. Dr. Mueller, however, in his report on the vegetable products exhibited in Melbourne, previous to their being sent to Paris, says of those from that colony, "that the "wood samples comprise representatives of barely one half "of the timber trees known to exist."

Three collections from New South Wales, Queensland, and Victoria are the same as those experimented on by Capt. Fowke after the Exhibition of 1855. Considerable additions are made of new kinds, as follows:—

Woods exhibited in 1855 and 1867.

New South Wales - - -	300	360
Victoria - - - -	45	107
Queensland, South - -	123	156
„ North - -		95
Gippsland - - -		8
	468	726

There are several small collections besides these.

69. The timbers of New South Wales, including 54 kinds of Eucalypts, or gum trees, with the often-mentioned iron Barks and other hard woods grown in the colder south, have been tried and described, as also the cedar brush trees "Cedrela," "Araucaria," "Synown" (rosewood), "Flindersia" (ash), "Vitex" (beech), "Owenia" (tulip), and "Grenellia" (silky oak), from the northern districts, all valuable timbers, especially the first, of which some fine slabs are shown, resembling mahogany, from the north of Richmond river. Some trees here are said to measure 10 feet in diameter, and to yield 3,000 feet of saleable timber (*vide* Catalogue). The tree nettle ("Urtica Gigas"), and a fig resembling the banyan of India, have measured 42 and 87 feet girth respectively. Still much remains to be done in exploring these forests. New South Wales.

40. From Victoria, specimens of 107 kinds, including two private collections, are shown. These are mostly different from the 45 kinds tested by Capt. Fowke, and also from the 55 kinds catalogued at Melbourne, so that there is here field for further testing. Dr. Mueller, in his interesting notes, describes the "Eucalyptus Amygdalina," to have attained in the valleys of Dandenong, and on the Yarra river, the height of 420 feet. He says, "these trees do not "exceptionally rise to this amazing height, but, contrarily, "very many, in the deep recesses of the mountains advance "to the same magnitude" (and this we see repeated in regard to other tall kinds of Eucalyptus, in other parts of the country). He also says, "the extraordinary dimensions "of the trees is not so much the result of very great age, "but extreme rapidity of growth." What number of years it would take to mature one of these great trees would be most curious to have ascertained. Dr. Mueller does not state from what grounds, whether observable in the annual rings seen in section, or actual registration of age, he infers great rapidity of growth. But old world experience would argue that trees of fairly rapid growth may live and increase for 1,000 years, without being half the above dimensions. There are trees of even 2,000 and 3,000 years' growth on record. Whether an exogenous plant, increasing in layers, or rings, from the outside, can put on its rings at a more rapid pace in Australia than in Europe, or of a thickness sufficient in a short time to produce a big tree, which at the same time will have a hard and homogeneous consistence is a subject worthy of the greatest attention in a forest point of view, to the colony, or whether this faculty is the property of the Eucalypts, wherever transplanted, would be so to the world in general; certain it is that the grain of these great Victoria.

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trees is peculiarly hard, tough, and said to split with the utmost difficulty, and that their strength and durability is undeniable. One fact would go to prove their quick production, *i.e.*, the prevalence of gum vein in the timber in concentric circles, between the successive layers of the wood, which unfortunate defect is said to be common in many of the Eucalypts. If so, rapid growth and consistence of structure cannot be combined in these as in other timbers. The white gum tree and stringy bark (Eucts. Stuartiana and obliqua), are said to exceed 300 feet in height, and to cover the plains and more barren mountains of Victoria. The ornamental woods shown are numerous, among which, "Senecio Bedfordii," a curious striped wood; and "Banksia Serrata," marked with net work; and "Acacia Melanoxylon," are not to be overlooked. The subject of inquiry and experiment concerning these wonderful forests and their products, is therefore by no means exhausted. A great advance has, however, been made since 1855 and 1862 in the scientific distinction and naming of all the various species, in which Dr. Mueller seems to have been active. And careful testing can now be gone on with more satisfactorily, there being no doubt as to the names. The use only of the colonial names to distinguish the Eucalypti in Capt. Fowke's list, takes away from the certainty of his results. Dr. Mueller has also brought together a splendid collection of gums and barks, wood fibres, tan stuffs, wood, oil, and tar, from many different species, which point towards great commercial advantages. Of oils alone there are 30 species, principally from Eucalypts and Melaleucœ, possessing valuable solvent and lubricating properties, of which it is stated any quantity might be obtained. West Australia has not contributed to any exhibition, therefore it is impossible to say what this great country produces in the way of timbers. Suffice it to mention the Karri Eucalypt of that country, described by Dr. Mueller as 400 feet high.

Queensland.

41. From Queensland, the southern collection, up to No. 123, is identical with that of 1862, tested by Capt. Fowke; 33 new kinds are added. The Melbourne catalogue, however, gives an entirely new collection, by Mr. Hill, Botanical Gardens, Brisbane, of 153 kinds, mostly different; while Dr. Mueller describes 95 kinds from North Queensland, principally distinct from the above, a few of them only are identical. The descriptions, carefully compiled and with scientific names, will be found in the "Reports and Awards "of the Jurors for the Intercolonial Exhibition of Austra-"lasia for 1866–67." These forests are remarkable principally for their coniferæ, the Moreton bay pine, "Araucaria Cunninghamii." Also "A. Bidwillii," and the "Kawrie,"

and Cyprus pines. Also the beautiful "Casuarina." There are many tropical kinds for cabinet work. "Eremophila Mitchelli," (called sandal wood), "Rhus Elegans" (yellow wood), "Acacia Excelsa" (rose wood), "Acacia pendula," and "Melanoxylon." "Eucalyptus maculata" and lignum vitæ are the most beautiful.

Gipps Land and Tasmania.

42. From Gipps Land there are nine useful woods, including Eucalyptus longifolia, said to last in the ground 20 years, and to resemble iron bark; "Acacia Supporosa," an elastic wood resembling hickory, and yielding straight spars 50 to 100 feet long. From Tasmania the 18 woods exhibited in 1862 have not been added to, nor have scientific names been given. Doubtless, this island produces excellent timber. Its stringy bark and blue gum, under test for transverse strain, were not inferior to greenheart, and many more kinds remain untested. New Zealand also has failed to come forward with her forest produce. There are, however, some excellent private collections from other colonies. One of 30 kinds from Sidney, by John Cuthbert, being worth attention; and another of 32 kinds, by W. Jolly and Co., of Darling Harbour, Sidney, from whose steam saw-mills sleepers have been supplied to India. Their catalogue is practical and interesting. Borneo and the Eastern Islands do not exhibit.

East India.

43. Last, but not least worthy of notice, in Class 41, comes our Indian exhibits, from the various forests of India, Burmah and the Straits.

Straits Settlements.

44. From the last, Singapore exhibits 71 specimens of unnamed timbers, apparently of kinds little known, but most likely practically useful, as they are sent by the Johore saw-mills. These should certainly be named and tested. Penang sends 40 specimens, numbered, but not named, apparently of excellent quality. To them the above remarks are also applicable.

Indian timbers described variously.

45. A catalogue might supply the names and descriptions, but unluckily no Indian catalogue is yet procurable. Official reports, however, on the various Government forests of India, are numerous and most interesting. These and the botanical works of India must be drawn on for the descriptions of timbers exhibited, and for some additional remarks on the forests, which may not be uninteresting.

Experimented on by Captain Fowke under uncertain names.

46. Capt. Fowke's experiments include 70 local names of timbers. Some of these are not of general significance, being in the Hindee, Burmese, Tamil, or other language, totally distinct, which is given to the tree in the district where it is cut; hence there is much confusion always in India as to the identity of species called by several different appellations. Even the scientific names are often not certain, as so many botanists have written on Indian plants, and

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given different names to the same species. Therefore, no great reliance can be placed on the collections from India, unless they are known to be made by a botanist, and, to make specimens of real value, the dried leaves and flowers should accompany them. In Capt. Fowke's list, the scientific names are added, in many cases from the native names, not from actual identification of the tree botanically, *e.g.*, black sissoo is marked "Dalbergia Sissoo," its grain being that of "Dalbergia latifolia" (Saj is called "Terminalia Arjuna," its grain being that of "Terminalia tomentosa"). Contrarily Saul is named Sakhoo, Surreye, and Sâl, so that the scientific names may be incorrectly added; the district or country in which these names are applied being not specified. This should certainly be done, mistakes may occur in transcribing native names, *e.g.*, the name of a place, "Philibeet," is given to "Nauclea Cordifolia" (the Huldoo tree), the specimens having come, doubtless, from Philibeet, in the north-west Provinces. The same tree is called in another place "Huan," but in what language is not mentioned. Thus, "Acacia Sirissa," appears in the list as two trees, "Sirris" and "Tseek Tha;" "Tectona grandis," as "Sagoon" and "Kuyen;" "Pterocarpus Dalbergoides," as "Beejah" and "Padowk;" and "Nauclea Parviflora," as "Kaim" and "Htein," without any explanation that these are the Indian and Burmese names for the same tree, found in the forests of both countries; and that the apparent discrepancy in the result of testing the wood of these specimens of the same species, is probably due to the totally different climate and soil of the two countries.

The names of the countries where timbers are produced should be added.

47. To rectify this confusion, the name of the country whence the specimen came from should be added, as also a description of the tree and its place of growth. No better plan can be adopted than that used in Australian catalogues.

Indian woods are numerous, but only half represented.

48. The Indian collections at the present exhibition are poor and by no means represent one quarter of the Indian timbers. Among Capt. Fowke's Indian list, only about 40 distinct species are found, and the present collections comprise not twice that number, whereas in the French collections of products of French colonies, specimens of 223 distinct species from the French stations on the coast of India are exhibited, properly classified according to the natural orders named and catalogued. A better list of Indian timbers cannot be found, as far as it goes. It may be seen in the official catalogue of French colonies. The whole of the timbers found in the tropical Deccan, central India, Bengal, the north-west, and Punjaub, in the sub-Himalayan ranges, stretching from Assam to Cashmere, the colder elevations, and the snowy ranges, would number three times that

amount; besides the distinct Silva of the Burmese continent, the Straits Settlements and Ceylon, amounting, probably, to as many more species.

A more complete collection from India desirable.

49. It is therefore disappointing that the proposal of the late Secretary of State for India, Sir Charles Wood, was not carried out for the benefit of the present Exhibition. His circular, published in 1864 and 1865, directed the Governors of each province to send slabs of *all the timbers* in their provinces cut 6 feet long and the whole width of an average tree, and accompanied by the dried leaves and flowers. The expense and trouble of this collection, *if duplicates were left out, from closely adjoining provinces*, would be trifling for a government like India, and all further confusion would have been avoided, but unluckily it fell to the ground, or only a few well known kinds were sent.

Mysore.

50. Of local collections, that by the Mysore Government cannot be too much commended. Slabs on Sir Charles Wood's plan, of 75 species, are shown; those even of the ebony and other slow growing trees being 13 inches across and $2\frac{1}{2}$ inches thick, and necessarily of old and seasoned trees. The names both native and scientific are printed and numbers stamped as well in case of the labels coming off. This collection contains many of the most valuable timbers of the Deccan, including teak, rosewood, and ebony; also the exquisite purple "Hardwikii Binata," of which there is a plank 15 inches wide. Experiments from this collection on Capt. Fowke's principle, would give perfectly undubitable results.

Central India.

51. The Forest department of Central India, has also, a fair collection of pieces, large enough to afford one experiment of each kind, all properly named.

Meerut.

52. Meerut forest department shows 75 specimens of smaller sizes, which is unfortunate, as there is no certainty of such small widths being from mature trees. The collection is interesting, being the first which includes the following Himalayan timbers:—

No. 39. "Rai," Abies Smitheana.
40. "Ootees," Populus ootees.
41. "Akrote" Juglans (hill walnut),
46. "Papree," Buxus (Hill Box).
49. "Salou," Pinus excelsa.
50. "Raisalon," Picea Webbeana.
52. "Sandham," Dalbergia Ougeinensis.

Indore. Madras.

53. The Maharajah of Indore has a fair collection of 64 kinds of like size. Madras Government shows 55 slabs of much too small size.

British Burmah.

54. British Burmah shows 113 kinds, of which "Dipterocarpus grandiflora," "Shorea obtusa," and "Lagerstræmia" are worthy of attention, besides the well-known kinds.

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Dr. Brandis in his report on the Atteran forests (March 1860) gives a most interesting description of the trees found in these regions, in which he expresses a wish that the wood of the "Lagerstræmia" ("Pubescens," called "Laizali") should be tested. He describes it as a tree often attaining 15 feet girth. He also speaks highly of the Padowk, "Pterocarpus dalbergoides," which attains a girth of 15 feet, and occurs with teak at 15 and 7 first-class trees per 10 acres respectively in Upper Salween forest. There are three oaks, "Quercus semiserrata," "Amhersteana," and "Lappacea," and a poisonous "Antiaris" described as 38 feet in girth and 250 feet high.

History of the forest department in India, Bombay, and Madras. Teak forests.

55. The first records found of Government interference in regard to the working of the forests of our vast Indian Empire date from 1800. In that year the Court of Directors authorized the Bombay Government to assume the same right which had been exercised by the previous Government of Tippoo Sahib, *i.e.*, the exclusive royalty of the forests of that Presidency; and in 1806 a forest conservator was appointed. There is no account of how the management was conducted up to 1822, except that all working of the jungles was prohibited. In that year the forests were thrown open to the public, and the conservatorship abolished. Consequent on this step, and the total neglect by Government of the subject, it was discovered in 1830, that, owing to indiscriminate cutting, teak timber for Government purposes was getting scarce, both in Madras and Bombay. Only in 1837 the Board of Revenue addressed the Governor of Madras on the subject, in reference to a report on the Travancore forests. From this report it appears that the Rajah of that territory had retained his sovereign right to the forests, and appointed an English conservator, whose system was the following. "For any 10 teak trees, fit to cut, two were to "be left for seed, and for every tree actually felled, 10 were "to be planted." During 20 years of this regime the Rajah had derived a regular revenue, and his forests then contained, in 1837, a full supply of first-class teak trees, while the forests in British territory were in course of exhaustion. Of these latter he prophecies their destruction if thrown open to contractors and all who wish to cut. The only restriction was one rupee per tree levied by the landowners, and a small export duty by Government. In 1839 Mr. Williams, dockyard manager, reported to the Bombay Government that in 21 months 40,000 teak trees, between 12 inches and six inches diameter, had been floated down by the contractors, who were allowed to cut indiscriminately, and that the supply of large timber fit for shipbuilding was scanty. But it was not till 1840, and on the urgent representation of the many

persons sent to report on the condition of the forests, that a conservator was again appointed, and a tariff of duty established, payable to Government, on timber exported, which would have the effect of preventing the destruction of the forest by the cutting of all the young trees. The prospects of reproduction of the teak trees had become so bad through the above neglect that Government was advised to purchase 260 square miles of forest land for replanting with young teak for the use of the Government dockyards. This was actually done in 1842. Several plantations were attempted, but it was found that the expense of planting an acre of land with teak was greater than the value of the timber likely to be produced, after 100 years, on a square mile. The British provinces of Malabar, Canara and Goojerat, Bombay, Madras, Rajamundry, Coimbatore, and Cochin, containing teak forests of vast extent, stocked with first-class trees fit to cut, and a natural growth of young trees reproducing themselves, and capable, with proper management, of yielding an ample supply without any chance of deterioration, had in these 30 years been given over to destruction. The Board of Directors in their prohibition of interference on the part of Government, believed that free trade in timber was advisable, and likely to develop the resources of the country, forgetting that if both young and old trees were cut down, the trade would no longer exist. It never was at all probable that contractors or lessees of the forests would be likely to leave any trees which they could sell, standing, for the benefit of the contractors of 100 years' subsequent date. And the growth of timber is so slow, that even owners of the soil will not plant or spare young trees for the benefit of a future generation. It is therefore manifestly the duty and province of Government to exercise the necessary restraint over the forests to insure that a sufficient number of young trees be left to take the place of the mature trees cut down, and also that the old trees which bear and scatter the seed for reproduction be not all cut away. This is the work of the Forest Department now established all over India.

Burmah teak forests.

56. In Burmah the teak growing districts are, Pegu on the Irrawaddie, and Sittang rivers, comprising 7,312 square miles of forest. Tenasserim and Martaban include 520 square miles of jungle on the Salween river banks. The first record of these forests dates from 1827, shortly after the country was occupied. In that year Dr. Wallich reported to Government on the forests visited by him. He describes the forests as being uncut, and very fine. He recommends that all teak forests be reserved strictly for public use. He adds: —"Unless this principle be acted on at the very outset, I "will venture to predict that private enterprize will very

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" soon render fruitless all endeavours to perpetuate supplies " for the public service; and one of the principal and most " certain sources of the revenue will be irrecoverably lost." In 1829, however, Government threw the forests open to the public, any person being permitted to take out a licence to fell on payment of a duty of 15 per cent. of the value of timber when cut. Certain restrictions were imposed as to size of trees to be cut, and an obligation to plant a certain quantity. These restrictions, however, were a dead letter, as in 1841, Mr. Blundell, the conservator, was censured by Government for resuming some forests in which the conditions had not been observed, and directed to reinstate the licence holders. It being frequently urged on Government that this system was most destructive, the licence holders having no interest themselves to consider the future welfare of the forests, 100 years leases were tried with no better effect, and it was not till 1853, when the teak trade had become too important to Burmah to be longer neglected, that a final settlement of the question was made by the Establishment of Government Forest Management for the whole of Burmah under one head conservator. The attempt was made to work the forests in part directly by means of a paid establishment and contractors. But this was found expensive, the surplus of four years' work, 1857-60, being only 65,796 rupees. The present system was introduced by the conservator, Dr. Brandis, in 1860.

The forests of Pegu were divided into six divisions, of over 1,000 square miles each, containing approximately 100,000 1st class trees in each division. The 2nd, 3rd, and 4th class trees each take 24 years to become 1st, 2nd, and 3rd class respectively. Therefore, in each division, if one quarter of the 100,000 1st class trees be cut every sixth year, taking the six divisions in rotation at 25,000 trees yearly from the divisions worked the forest will have yielded all its mature timber in the 24 years required to bring on a fresh supply. In practice, 20,000 trees only are cut, some old trees being left for seed. By a system of forest surveying, described in Dr. Brandis' most interesting report on Attaran, 1860, conducted by the forest officers, it is discovered that the teak forests, though of a very scattered character, contain a certain quantity of trees of each class, generally 100 of 1st, 2nd, and 3rd each, and 200 of 4th class trees, per square mile. Therefore, by cutting only 80 of the 1st class, and leaving 20 for seed bearers, as well as all the younger trees, which are protected from fires as much as possible, in 24 years the forest is renewed, and in a rotation of 120 years, or the age of a 1st class tree, the stock is entirely replenished. It is an important property of teak, that when green, it will not

float. Thus it is easy for the forest superintendents to check the cutting in this way. In the division to be worked, the officers of the forest department mark and girdle the trees to be cut, three years before the working season of that division; so that the proper trees, only, are in a state to cut and remove, being dead from the girdling, and dry enough to float. Permits are then issued to parties who are willing to cut, and drag to the rivers, by means of elephants, the dry timber at so much per log floated down to Rangoon; no further trouble or expense being incurred by Government. The result of this system is, in British Burmah, that the export of teak timber, which would have undoubtedly come to an end without Government supervision, is now kept up briskly. The expenses of a very large forest establishment employed in conservation work, which will tell 100 years to come, are paid (in 1865–66 they amounted in Burmah to 31,194*l.*); and a large profit accrued to Government (in that year it was 58,655*l.* for our Burmese provinces). So much for teak forests under the Forest Department.

Indian sâl forests.

57. A short allusion to the Sâl forest of India may not be out of place. In central India, on the Nerbuddha river, extensive Sâl forests begin to take the place of teak, which does not occur further north than Jhansie. Along the whole sub-Himalayan range, up to 3,000 feet elevation, and in a belt ranging from five to 20 miles wide, at the foot of the hills, and over 1,500 miles long, dense forest is found. Wherever the soil is elevated and dry, this is nearly pure Sâl forest. That tree, unlike the teak, monopolizes the soil, and by its dark green foliage prevents other trees from growing with it. In Kumaon, Oude, and many of the Nepal jungles, as many as 70 1st class trees per acre have been found, besides young trees from seed, at 200 or 300 per acre, growing up with the old. It is a strange fact that since British occupancy of this tract, the accessible forests have been mostly cleared of large trees. This was effected by the contract system, by which the forests, the undoubted property of Government, were leased out for a term of one year annually to the highest bidders, giving them a right to cut whatever they pleased. The revenue brought in by this plan was quite insignificant, timber being plentiful until each successive lessee had taken what he could out of his piece of jungle, and finally no more trees remained to be cut. Under these circumstances, the jungles have at length been made over to the Forest Department, as the manifest scarcity of timber made it imperative to adopt some measures. It is needless to say that the contract system was abolished, and a regular forest management established in the Punjaub, Rohilcund, Oude, Goruckpore, and central provinces. The forests north of Oude have been

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ceded to Nepal, whose prince, Sir Jung Bahâdour, more long-seeing than the British Government, has reserved all the forests, no one being permitted to enter them, even, without special leave, and no timber has been cut in them for centuries. It has, however, turned out, perhaps, advantageously, as these vast Sâl jungles (several 1,000 square miles) contain abundance of the finest trees, which may prove of untold value, as a reserve of timber capable of supplying the market in times of scarcity. Some idea may be formed of the size of the Sâl trees growing in the Nepal hills, from the fact that the ferry boats used every where on the Gogra and other branches of the Ganges, are formed of single logs, hollowed out, and floated down from Nepal, one of which holds 10 to 15 men, with cattle and horses, costing 50 to 100 rupees purchase from the Nepal boat makers. That country is not surveyed, but estimated roughly; its sub-Himalayan belt of Sâl forest, extending from the Gogra to Sikhim is 900 miles long, and 10 to 30 miles wide. The higher hills contain immense tracts of pine forests, including "Pinus Longifolia," called "Doop" by the Nepalese, also four other kinds, and a larch, "Larix Nepalensis." The British Sâl forests may roughly be computed as follows:—

Central Provinces - - -	2,000 square miles.
Kumaon and Gurhwal - - -	600 „
Dehra, Dhoon, and Binjore - -	400 „
Oude - - - - -	250 „
Goruckpore - - - -	300 „
Bootan Dooars - - - -	unknown.

The general character of these, however, is that few large trees remain standing. The young trees are abundant, and likely to afford a large supply in 50 or 60 years' time, and there is sufficient yield at the present to pay for conservative expenses. The forest revenue and expenditure of India, in 1865–66, is given for that year in the last budget returns as follows:—

	Receipts.	Expenses.
Government of India - - -	£13,212	£2,998
Oude - - - - -	11,997	5,877
Central Provinces - - -	13,327	10,783
Burmah - - - - -	89,849	31,194
Berar - - - - -	1,797	923
Bengal - - - - -	3,865	4,529
North-west Provinces - - -	61,141	27,222
Punjaub - - - - -	3,068	27,106
Madras - - - - -	36,588	25,642
Bombay - - - - -	100,761	77,505
Total -	£367,682	£213,779

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Indian forests are exhausted, and no return can be at present expected from them.

58. Considering how the forests have become exhausted, this is no inconsiderable return. To class it as a source of revenue, which costs 57 per cent. in collection, is manifestly putting the question of how forests are to be worked productively, in a wrong light. The expenditure incurred is not cost of collection, but expenses of an establishment employed to restore the forests which have been nearly cut down. The facts above referred to (that the teak forests now contain but one and a half first-class trees per acre, instead of 14, and the Sâl forests no first-class trees, instead of 70 per acre, the normal number), show that the forests are not in bearing condition, and therefore the revenue now accruing from them is not a normal one at all, or in any way approaching to what it would be were the forest in bearing. It must also be borne in mind that both Sâl and Teak trees take 100 years to grow ; therefore, to expect a full revenue, for many years to come, is absurd. Planting has been recommended by most of those who have studied the subject, in which case, manifestly, the full time would have to be waited for a return of mature timber. To say nothing of the cost of getting the trees into the ground, and their care for so many years, which is manifestly greater than that of merely preserving the young and half-grown trees already standing in the natural forests, it is the province of Government to hold those large and far-seeing views of correct rule, which are commensurate, not with the life or interests of the individuals of the day, but with the time required to develop the resources of the country governed. Therefore it may be argued that Government should spare no expense to restore again the exhausted forests, with a view eventually to working them on approved and paying principles, and not look for a present revenue, which may further exhaust those forests for the sake of a small present gain ; and at the expense of a very great future profit, to both the country and the Government, which it is most probable will accrue, judging by the results of systematic forest management in Europe. The analogy of India (if not the colonies), to Europe, is closer than that of England to other countries, where forests are in the hands of the State. The forests in both are self-reproducing. In England they are planted. These circumstances have led to a late proposal on the part of the Inspector-General of Forests in India, to train young men in the French and German Forest Schools, both practically and theoretically, with a view to their holding appointments in India, in the forests. This will be of immense advantage to that country, as hitherto the English system of cutting down trees and planting them again has been too much the idea in India and caused the

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damage. But the first and most important and unpalatable change to be instilled into the forest administration in India, will manifestly be, that in future forests are to be preserved and fostered, not cut down, and consequently no revenue must be expected from immature timber, and no expense spared, which will be repaid at a future time, no matter how remote. This will require a considerable increase in the Forest service, which is totally inadequate to the work to be done, and men will have to be engaged who are scientifically acquainted with forestry. Otherwise the old short-sighted policy of cutting down all the trees may at any time and at once cause the destruction of what years have accomplished.

Questions of planting and thinning considered.

58. The questions of planting and thinning require further consideration. So early as 1842, in Burmah, at a time when representations had been made to Government as to the evil effects of the system then in force, of general cutting, plantations of teak were formed in Attaran to remedy the evil. The teak was found to grow freely from seed, but so little care was taken of the seedlings that in 1845 but one tree was found alive. Plantations have since been established in many places, both in southern India and Burmah, and the seedlings were found to attain in two years from the date of sowing, a height sometimes of 32 feet and 13 inches girth. In his interesting report on Altaran (1860), Dr. Brandis calculates that to make teak plantations profitable after 62 years, the total outlay per acre should not exceed 67 rupees. The actual outlay was, however, over 600 rupees per acre, and the total amount hitherto planted may be reckoned by a few acres; so that Government planting as a method of restoring the exhausted forests, is a failure. In England plantations of slow growing trees may be said to succeed, but these are made under totally different circumstances. The planters are the hereditary owners of the soil, and are induced to plant and protect their trees for their own interest, for the sake of the shelter and beauty they create. In India luckily the forests reproduce themselves. If they are worked properly there should be no need of planting. A much more important forest operation to India might, however, be tried with success, *i.e.*, the thinning out of the young trees where too thick. This applies to the Sâl jungles of the north-west, where, so far from sowing being necessary, the saplings grow naturally at 300 and 400 per acre. No attempt has hitherto been made to thin out these over crowded tracts, which are very extensive, all the attention of forest officers being turned to the cutting down of the big trees wherever found. Unwillingness to incur a small outlay, without immediate return, may also have been the cause of neglecting an operation found so

beneficial in Europe. It is, however, probable that thinning may be tried before long. All these facts go to prove the importance to the world of studying everything connected with the supply of timbers generally, and discovering the qualities of the new kinds which may be required to replace the old kinds when exhausted; therefore, remarks somewhat extended have been made on them. The timbers found in the British hill provinces of Kumaon and Gurhwal, and the Punjab Himalayas, are not represented in the Exhibition, which is unfortunate, as they are little known. A collection of 70 varieties was sent to the Agra Exhibition of 1866 by the writer. This included the deodar (Cedrus deodara), which is found there of immense age and size, 40 feet girth and 250 feet high. Its timber is nearly imperishable. The banks of the Sutledge have been nearly cleared of deodaras, for railway purposes, and though 10 per cent. of the trees only reach the plains, by reason of the rocks in the river, the cost of cutting and floating down is much more than paid. The "Pinus longifolia" "Cheer pine" is the next tree of value in the Himalayas, as it occurs over all the lower hills, covering an area of several thousand square miles. Its timber is equal to Norway pine, and it is proposed to use it for sleepers on the East Indian Railway, and experiments as to its lasting qualities, when impregnated with creosote, have been successful. It only remains to make a rough enumeration of the kinds of timbers now brought together in Paris, which may show how wide is the range for experiment and comparison.

List of Countries exhibiting Specimens of Timbers in the Universal Exhibition at Paris, 1867, and the Number of distinct Species shown, approximately.

	Country.	Number of Species.
Europe	France	70
	Austria	20
	Spain	20
	Portugal	125
	Germany and Russia	20
	Roumania	160
	Total	395
Asia	Cochin China	100
	Turkey	150
	China	10
	Mauritius	66
	Sassaram	16
	Mysore	76
	Central India	50

List of Countries—*cont.*

	Country.	Number of Species.
Asia—*cont.*	Indore	64
	Burmah	113
	Singapore	71
	Penang	40
	Meerut	57
	Madras	35
	Total	858
Africa	Algeria	60
	Madagascar	120
	Senegal	42
	Egypt	40
	Cape	50
	Natal	50
	Total	252
America	French Guiana	130
	Guadeloupe	130
	Cuba	200
	United States	30
	Brazil	300
	Venezuela	82
	Paraguay	41
	Nicaragua	59
	Costa Rica	70
	Canada	186
	British Guiana	30
	Trinidad	10
	Honduras and Bahamas	30
	Total	1,298
Oceanea	New South Wale	360
	Victoria	107
	Queensland	156
	Queensland, North	95
	Gipps Land	8
	Tasmania	40
	Philippines	200
	Total	966

Europe	395
Asia	858
Africa	252
America	1,298
Oceanea	966
Total	3,769

REPORT on PRODUCTS of SHOOTING, of FISHING, and of the EARTH WITHOUT CULTURE.—(Class 42.)—By Professor WYVILLE THOMSON, Queen's College, Belfast.

A MASS of miscellaneous articles is crowded into this class in the official catalogues. When the jury commenced their rounds they soon found it necessary, in order to ensure the full comparison of particular products, to negotiate with the juries of other classes of the group for the transfer and redistribution of some of these. Thus the greater part of the oils and gums, including india rubber and gutta percha, were already arranged, in Class 44, as pharmaceutical products. In this class crude oils and gums were almost invariably exhibited as part of a series showing the various stages of preparation or manufacture, and it was only in a very few cases, where the material was shown in its crude state, that it had been referred to Class 42. To ensure, therefore, general comparison, an arrangement was made with the jury of Class 44 to transfer to it all the oils and gums included under Class 42. In like manner honey, preserved fruits, and mushrooms were handed over to the food juries, while a quantity of skins and furs, which had got mixed in the catalogues under Class 46 with hides and leather, were sought out and transferred to Class 42.

After all this arrangement had been concluded the jury of Class 42 retained in their department furs and skins, furs used by hatters, hair and bristles, feathers and down, ostrich feathers, collections of objects of natural history, coral, tortoiseshell, pearl shells, teeth and horns, sponges, imitations of whalebone, and isinglass.

Although many of these products are not capable of being rendered very attractive as objects for exhibition, there are in Class 42 upwards of 750 exhibitors; and some of the collections are of the very highest interest in a scientific as well as in an economic point of view. Perhaps the most interesting and instructive collection in the class is that of the French colonies—New Caledonia, Guadaloupe, Gaboon, &c. The raw industrial products of these little-known regions are shown in every variety and quality, admirably prepared and mounted; and the natural history collections, which will be noticed hereafter, are well preserved, and are of the highest scientific interest.

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Furs.

The fur trade is by far the most important commerce falling into this category. As several distinct industries are included under this general head, the jury in their report found it convenient to distinguish into different groups dealers in skins and manufactured furs in the ordinary sense; preparers and dressers of Astracan lambskin, sealskin, and such furs as are subjected to special processes, and preparers and dyers of sheepskins.

It is not surprising that, notwithstanding their great beauty, furs are not well represented in the Exhibition. The cause of this is probably that the finer furs have a definite quality and value almost as well known as that of current coin, and that therefore they are scarcely suitable articles for competition. Besides this, their value is very great, and they are, probably more than almost anything else, liable to injury from carriage and from long exposure. The French collection of furs is accordingly infinitely superior to that of any other country. A small court in the French department is devoted wholly to them, and the leading Parisian furriers have contributed cloaks, robes, muffs, and boas of the utmost luxury and beauty. It is impossible to institute any fair comparison between the exhibitions of such houses as Revillon Père et Fils, Lhuillier et Grebert, Stanislas Revillon, Detmar, &c. The quality of fur is the same in all, and in all great taste is shown in the selection of the furs and in the style and finish of the various garments. M. Pfeiffer-Brunet, of Paris, has a specialty in shakos and ornaments of fur for the French army, and many of his productions are extremely handsome. A wonderful grebe mantle, suggestive of much weary and scarcely profitable labour, is shown by M. Detmar, of Paris. Each single feather is sewn in separately on a basis of silk, and the darker feathers are run into a graceful wreath of leaves round the skirt. One of the most interesting novelties, or rather revivals, for the plan was in use many years ago, and has only been reproduced during the last couple of years, is the *galonnement*, or lacing of furs. Some of the finest and most expensive furs, especially those from northern regions, such as the sable and the silver fox, are almost too close and heavy in the original state of the skin. These are cut up into fine strips about a third of an inch in width, and between two of these is inserted a strip of equal width of silk. To do this the strips must be most carefully matched in colour, and combined with artistic dexterity. When the lacing is completed the fur entirely closes over the silk, and it is only by blowing the fur and

separating the hairs that one can detect that the fur is not continuous. A fabric is thus produced more open and much lighter than the original skin, and a single pelt is made to cover double the original extent, giving the effect of one much larger. Such articles as tippets and muffs produced in this way are cheaper, as well as more porous and more wholesome for wear in temperate climates, than if the skins had been used entire. The *galonnement* of the rarer furs is much in use in the Paris houses.

At the entrance of the French fur court there is a splendid case of skins exhibited by M. Servant, the leading agent in Paris for the importation of furs. This collection embraces upwards of 300 varieties of fur used in commerce.

The furs next in importance are in the Russian department. Fine collections of northern furs, including magnificent examples of sable and ermine, are exhibited by M. Belkine and M. Schraplau, of Moscow. M. Bergström and M. Forsell, in the Swedish, and M. Rustad, in the Norwegian department, show fine series of the furs of Northern Europe. The furs of the New World are poorly represented. Messrs. Günther and Son, an important New York house, show a series much inferior to what might have been expected; and the great fur trade of Canada is very inadequately represented by M. O. Côté, of Quebec. Neither is there a good collection of the furs of Australia. A few pretty articles in dark opossum skin are shown by Mr. Gardner, of Melbourne; and the New South Wales Exhibition Commission exhibit a case of the manufactured skins of the platypus, owing to the rarity of the animal a matter of curiosity rather than of commercial value.

The great London fur houses do not exhibit.

As preparers and dressers of furs Messrs. Pasquier, of Poitiers, M. Laborde-Bois, Arudy, Basses-Pyrénées, who show beautifully dressed lamb skins; Messrs. Keller and Son, Weissenfels, who exhibit dressed squirrel skins, &c., and Messrs. Quelle, Paris, take high places. Messrs. Bevington and Morris, of Cannon Street, London, stand first in dressing angora rugs, and in the beautiful art of dyeing and preparing sheepskin mats. Their work is wonderfully delicate and rich in colouring. They are rivalled by Messrs. Deed and Son, Oxford Street, and Messrs. Kibits and Son, Pilsen, Bohemia.

Fur for hatters.

The purveyors of fur for hatters exhibit long ranges of small puffy masses of all soft colours,—fawns, browns, greys—even pale rose and white, the colour usually shading

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down softly towards the edges of the ball from a central darker line. These are the fleeces of rabbits and hares. The ends of the long coarse hairs have been cut off; the under layer of fine wool has been carefully dressed, and sometimes dyed by the application of mercury or some other agent during the process; and the fleece thus prepared has been shorn cleanly from the skin and rolled up. To the dextrous shearer of these small fleeces the surface of a hare or rabbit is mapped out into important anatomical regions. A dorsal band about 2½ in. wide, stretching from the nape of the neck to the root of the tail, fetches the highest price in the market; and the value gradually diminishes up upon the head and round by the flanks towards the ventral region. Any intermediate shade of value may be had by a graduated mixture of the wool from different parts. Up to the beginning of the present century hatters prepared the materials of their manufacture from the crude skins on their own premises. About the year 1826, owing to the steadily increasing demand, the process of cutting and preparing the fleeces for making the felt was separated into a distinct trade. The invention of silk hats about the year 1830 gave a temporary check to the new industry, but a prohibitory duty on the exportation of hatters' materials out of France which had previously existed was done away with in 1847; and this, with the increasing demand for "wide-awakes," saved it. The number of rabbit and hare skins used by the French cutters has increased enormously. From the year 1830 to 1837 it averaged 1,000,000 skins a year; from 1837 to 1848, 2,500,000 a year; and in 1864 70,000,000 skins were used; in aggregate value upwards of 1,000,000*l.* sterling.

M. de Clermont exhibits a beautiful series of all the kinds of hair employed in the trade, including that of the beaver, which is fast falling into disuse; and the collection of M. Aschermann, who has aided greatly in perfecting the processes of manipulation and in developing the industry, is well worth careful inspection. Both of these collections are in the French Court.

Pigs' bristles.

Pigs' bristles are certainly not very attractive, and thus are rarely brought before the public in their crude condition. One must remember the prodigious and unceasing demand of brushmakers and shoemakers to estimate their enormous importance as an article of commerce. This demand is chiefly supplied from Russia and the north-eastern regions of Europe. The value of the bristles imported annually into France from Russia and Germany may be

stated at about 3,400,000f. In the Russian Court, accordingly, we have the finest collections in this department; and Messrs. Mamontoff and Co., of Moscow, exhibit a case which thoroughly vindicates the importance of their trade; while M. Giline of the government of Vologda, and M. Bobarikine of Pskov, show collections scarcely inferior. Hair, baked and prepared for the upholsterer, is exhibited by M. Rigaud and MM. Loyer et Bernus, of Paris; and in the Belgian Court by Messrs. van de Casteele and Duban, of Ghent.

Feathers and down.

Feathers and down are chiefly imported into France and Western Europe from the west of Russia, Poland, and Southern Germany, and from Denmark, Sweden, and the north. In quality they vary extremely, from 1*s.* 6*d.* to 20*s.* a pound. A fine series, embracing most of the varieties in commerce, is shown by M. Perilis Pollak, of Prague. In the Dutch department Messrs. Klütgen of Rotterdam and Kratzenstein of Amsterdam exhibit likewise excellent collections. MM. Sieurac show in the French Court some samples which are highly recommended on account of the superiority of their method of preparation. Some of the best specimens of eiderdown are exhibited by M. Hans A. Clausen of Copenhagen.

Ostrich feathers.

The finest collection of ostrich feathers is among the products of the Cape of Good Hope. Those exhibited by Mr. Benjamin, Mr. Kureller, and Mr. Bensusan can scarcely be surpassed in size and richness and in the perfection of the plumes. A good set is likewise shown by M. Marchellier from Senegal. The feathers exhibited in the Algerian Court by M. Chagot are specially interesting. They are supplied to him by M. Hardy the director of the Algerine "Jardin d'Acclimatation." They are, as yet, generally of smaller size and scarcely so full in the feather as the plumes of wild birds from the Cape.

Natural history specimens.

Collections of specimens in natural history are numerous, but generally not of the highest class. For convenience of comparison the exhibitors were separated by the jury into two groups—naturalist collectors and taxidermists. The most interesting and important exhibitors in the first group, those from the French colonies, have been already alluded to. M. Vieillard exhibits a skilfully mounted and carefully arranged herbarium from the island of New Caledonia. This collection was the labour of many years; it contains about 9,000 specimens, many of which are unique, and a large proportion of great rarity. This herbarium is a very important addition to the knowledge

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of geographical botany. M. Touchard shows important collections from the Gaboon settlement, and M. Schramm exhibits a very rich and admirably preserved series of crustacea from Guadaloupe. In the Ottoman Court there is an extremely interesting collection of the insects of Syria, chiefly the Coleoptera. This collection is exhibited by Abdullah Bey, a gentleman who is very well known in the various entomological societies of Europe under another name as an accomplished entomologist and insect anatomist. There is a pretty little collection of mosses from the Pyrenees shown by M. Fourcade. M. Fourcade's collections are for sale at a very moderate price, and as the specimens are accurately named and their localities most carefully cited, they may be of value to British collectors to assist in the identification of species.

At the head of the collections of the taxidermists, M. Verreaux, 9, Place Royale, Paris, has probably the most extensive connexion and the largest business of any one in the trade; with correspondents in all parts of the world, it is usually from his emporium that rare and new forms, especially among the higher groups, mammalia and birds, first find their way into the market. In the present Exhibition M. Verreaux shows a few samples of stuffing which are scarcely worthy of his world-wide reputation.

In the Nova Scotia Court there is a very beautiful little collection of birds stuffed by an amateur, Mr. Downs. These birds are nearly perfect in their way; perhaps there is a little too much stillness and sameness in the attitudes, but the form and the proportions of the body are perfectly preserved, and there is scarcely a feather out of place.

Mr. Edwin Ward, London, stuffed and mounted the most popular group in this department in the Exhibition, the lion and tiger fighting, exhibited by Mr. Clement Smith in the Indian Court. The composition is a very difficult one and wonderfully well carried out; to have avoided a certain woodiness about the legs and paws, and to have made the group look quite natural, would have probably been impossible. Mr. Henry Ward of Vere Street shows a brilliant case of trogons. The gorgeous colours of *calurus resplendens* are well harmonised and contrasted with foliage, but the effect is spoiled by the impossible attitudes in which plump trogons are balanced on bent fern leaves and other insufficient supports.

M. Cailliaux, of Nantes, shows a very interesting collection of sections, taken in all directions through the shells of mollusca. The sections are cleanly made and very instruc-

tive. In the same collection there is also a singular series of specimens illustrating M. Cailliaux's researches into the method by which some of the boring mollusca, especially the Pholades, bore their chambers in every kind of hard rock. M. Cailliaux believes that this is done by mechanical action only, and his collection contains many chambers completed or in process of excavation, which he has succeeded in producing artificially by the rotation of the shells of Pholas and the wearing away of the substance of the rock by their rough surfaces used as a file.

Captain Mitchell, of Madras, exhibits a collection of stuffed fishes, extremely well mounted; most of the difficulties in preparing fishes in the dry way are overcome in this series. The form, at all events, is almost perfectly preserved. From the Museum of Sydney there is a large collection of the marsupial and monotreme mammalia of the colony, fairly stuffed; and an excellent collection of the South Australian amphibia. Altogether, when we consider the brilliancy of the objects and the amount of skill which may be displayed in their mounting and grouping, whether as scientific collections or for purposes of decoration, the show of preserved animals, and particularly of stuffed birds, in the Exhibition is extremely poor.

Coral, pearl shells, and sponges.

Most of the coral is exhibited, more or less manufactured, in the jewellery class; and there are only a few specimens in the crude state in Class 42. In the Algerine Court M. Laonaire and M. Onetto exhibit beautiful branches of pink and red coral; and a fine piece of rough coral, also from the coast of Algeria, is shown by Signor Avellino, of Leghorn.

A few examples of unmanufactured tortoiseshell and some pearl shells are exhibited by M. Hort, from Tahiti.

The only important collection of sponges is in the French department. MM. Coulombel et Devismes, Rue du Faubourg St. Denis, Paris, show a fine series, embracing almost all the varieties used in commerce. There are beautiful specimens of the most valuable variety from the coast of Syria, and many fine examples of the coarser and cheaper kinds from the Bahamas, &c. But the ornaments of MM. Coulombel's case are some gracefully-formed old Phœnician amphoræ, which have been dredged up incrusted with the finest sponges, whose soft fair masses contrast wonderfully with the dark antique pottery. There are also in the collection vases of sponges, in spirit of wine, in the state in which they are recovered from the sea, covered and filled with the original crust of animal matter. The collec-

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tion is very artistically arranged and highly interesting in every point of view. M. Haymann likewise exhibits a vast collection of sponges, chiefly of the cheaper varieties. In the collection of M. Rennes there is an example of the rare Venus flower-basket (Euplectella aspergillum), a beautifully formed sponge, consisting entirely of glass-like silicious threads, which has lately been brought in considerable numbers from the Philippine Islands. In the Turkish Court there is a small but interesting collection of fine sponges attached to stones, showing their mode of growth. There are a few from Greece, exhibited by the commune of Pyrgos; and the committee of the Bahamas show a considerable series of the inferior variety which forms so important an article of commerce in these islands.

Crude isinglass.

Excellent samples of crude isinglass are shown from Russia, Brazil, and Guiana.

Imitation whalebone.

There are two attempts in the Exhibition to imitate whalebone. The gradual extirpation of the Greenland whale and the great consequent increase in the price of true whalebone give any satisfactory step in this direction a great commercial importance.

Messrs. Aubly and Co., Paris, show an apparently excellent imitation in buffalo's horn. From the close similarity in the structure of the two substances there seems to be no reason why this substitute should not answer most of the purposes to which whalebone is now applied. The horns, after undergoing some process, are cut into strips, which are compressed and straightened. Horns of different sizes and different parts of the horn cut of course into pieces of different length; and a great deal of waste is saved by supplying dressmakers with packets of the prepared horn of every possible length, width, and strength, suited to every purpose of their art.

An imitation of whalebone in compressed cane, exhibited by Messrs. Schwartz and Son, of Copenhagen, is much cheaper, but otherwise not so promising; it will probably be applicable to inferior purposes only.

Report on Spun and Woven Fabrics, shown as specimens of Dyeing, Bleaching, or Printing.—(Class 45.)—By Professor Bolley, of Zurich.

We shall limit ourselves at first to a review of the general characteristics of the goods at present in the Exhibition, and particularise only what is new.

A statistical account of the part taken by the different countries according to the general catalogue would be of little worth, as a confused arrangement of the official classification (see introduction to Class 27 of the general catalogue, France) induced some commissioners to place products which evidently belonged to Class 45 in the Classes 27, 28, 29, 30, 31,—cotton, wool, silk, mixed fabrics.

The most prominent place in our class is occupied by France. France, as well for the number of exhibitors as for the excellency of the products.

As the most attractive class of goods of the French exhibition, we call attention: 1st. To the worsted and woollen goods from the neighbourhood of Paris, which are of surpassing richness and variety of colours, especially merinos. 2nd. Printed silks, worsted, mixed silk and woollen fabrics, poile de chèvre (alpaca), some from Paris, some from Lyons. 3rd. The cotton and woollen prints from the department of the Upper Rhine (Mülhousen).

The specialties called *hautes nouveautés* are especially represented in dresses, shawls, and furniture stuffs. In the silk fabrics we find combinations of warp-printing and weaving which affords as brilliant a proof of the good taste as of the technical power of invention of the manufacturer. The warp-printing does not exhibit that indistinct appearance which it formerly did; but, on the contrary, the design stands sharp out, so that the printed part is treated by the weaver as satin. The effect is sometimes heightened and varied by the cutting of the satin, by which a velvet-like appearance is obtained. See, for instance, in the Exhibition of the Chamber of Commerce of Lyons the goods from Ronce and Vachon; and the exhibition of Brunet, Lecomte, and Co., and also the one of Bourgoin (Isère).

In the exhibition from Mülhousen we observe three styles (genres) in point of novelty, taste, and design. Mülhousen Exhibition.

1st. The furniture prints partly are a deceptive imitation of the antique furniture called terses, which we do not think it necessary to dwell upon. But there is presented a new and

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surprising style of room decorations. They are produced upon a very coarse cotton stuff—the so-called *cretonne.* The ground is printed blue or pink, and the white left out for the design. The simplest example we can cite is that of two greys, and the natural white of the stuff, or three greys and black, besides the white of the ground, are used for the design. The effect is surprising. Let us cite, amongst others, the exhibition of Mr. Fries-Reber, from Ringersheim (Upper Rhine), and of Mr. Thierry-Mieg, at Mülhousen, which establishment has obtained great praise for having invented this style.

2nd. The imitation of Cashmere shawls by printing has reached the highest perfection. The materials are fine worsted goods or mixed fabrics of wool and silk. The palm-leaf pattern is executed with wonderful precision, and in the richest and most delicate combinations of colours. The house of Steinbach Koechlim, Mülhousen, is distinguished in this article; they exhibit merinos—robes of which the bottoms of the skirts consist of patterns borrowed from the Cashmere shawl, while the upper part is of one colour, blue or green. The execution of the one-coloured as well of the figured part is uncommonly beautiful.

3rd. A great number of the print manufacturers of Alsace contribute to the third style, which consist in piquées, shirtings, jaconets, muslins, barèges, and other cotton and worsted materials for ladies' wear; shirts for gentlemen, &c. In most cases the ground is white, but sometimes of a nankin yellow, or other fashionable colour. They are somewhat in the madder style, or albumin and lacterine print, with new colours or ultramarine. The designs represent partly large bouquets with garlands, partly small single flowers, or one-coloured, generally black, small and single arabesques, drawn upon a ground of the purest white or of a pale tint, with a distinctness and a freshness we have never seen attained. The designs are extremely correct—in many cases, exact copies of nature; every pattern harmonious and free from exaggeration.

Mülhousen again proves that it is not to be surpassed in this department. We take the liberty of omitting the enumeration of the contributing firms, well known in the industrial world, and of which a complete list is to be found in the general catalogue.

Rouen furnishes its well-known staple articles, most of them madder; also indigo-resist, discharged Turkey red styles.

Great Britain almost unrepresented.

It is much to be regretted that Great Britain is almost entirely unrepresented in this class, as her superiority in thos

styles is acknowledged. One finds, however, many things worthy of notice in dyed silks, dyed cotton yarns and twists, dyed woollen yarns, prints on cotton and combed wool, &c. But neither Spitalfields, Coventry, Manchester, Glasgow, Bradford, nor any of the other principal industrial districts in which dyeing and printing flourish, have come forward with their superior strength.

Switzerland. Switzerland, with the exception of France, stands foremost in the variety of her fabrics and the number of her exhibitors. All that she furnishes are articles of general use, with the exception of a few which may be reckoned amongst the *hautes nouveautés*, Turkey red yarns and cotton fabrics asserting their old claim, discharged Turkey reds, steam colours, madder style for handkerchiefs, &c.; blue ground chintz in beautiful variety (resin-resists), indigo-resists, dyed tertals in different colours, albumine prints. Besides these, exhibitions of coloured floss and sewing silks.

North Germany. In the North German States, the calico prints and the dyed silk of Berlin, the dyed silk, and dyed Turkey red of the Lower Rhine, and the dyed wool of different parts of the country are fairly represented.

Baden. Baden has a very fine exhibition from Lörrach.

Austria. As to the Austrian empire, Vienna stands foremost in printed shawls; Bohemia (Prague and Cosmanos) in ordinary cotton goods; Reichenberg in printed combed wools. Besides, many things worthy of notice are to be found in the dyed silks, wool, and Turkey red.

Russia and other countries. Russia is very creditably represented in printed cotton goods, especially of the coarser kinds suitable for national costumes, and in well-executed garancine articles, in Turkey red and also lapis.

From Italy we find many things, especially Turkey red dyed goods.

Spain has a tolerable show of cotton prints, mostly stuffs for common use.

Belgium has also a very complete show of printed cotton goods, as well as of coloured sewing-thread and Turkey red yarn.

In Holland we find, as characteristic, Javanese and imitation Dutch tattiks.

We cannot pursue further our observations on other specimens of dyed or printed goods scattered in the exhibitions of the different countries.

There is much novelty to be seen in the great Exhibition on the Champ de Mars even in Class 45. In some cases it is difficult to determine whether they were invented previous to the year 1862, as at that time there existed many that

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were not exhibited in the International Exhibition of London.

We shall begin with a close description of some *mechanical inventions* relative to the printing of goods. The introduction written by Professor Persoz, of Paris, to Class 45 of the French official catalogue, points out the advantages which arise from the employment of cast-iron rollers covered with a sufficiently strong galvanic deposit of copper, instead of the rollers made entirely of copper as hitherto in use. This invention will necessarily diminish the capital value of the considerable stock of engraved copper rollers existing in larger prints works. It is also easy to understand that rollers of greater diameter, calculated to produce patterns of larger "rapports," can now be made with greater ease and much less expense.

Mechanical inventions for printing of fabrics.

There are at present innumerable patterns, as well for gentlemen's as for ladies' wear, for the manufacturing of which cotton yarns, floss silk, and worsted yarns, printed in the "chiné" style are required. Formerly such kinds of yarns were at first dyed, and at certain distances strips of lead were applied on the hanks of yarn, and then dipped into a discharging fluid, when the colour was removed on the uncovered parts and preserved on those which were covered. This method was slow, expensive, and exceedingly incomplete. More exact patterns of much smaller dimensions are now produced by warp-printing by machine, which turn out a large quantity of goods, and which is the invention of Messrs. Andrews & Co., of Manchester. For many years yarns were sent to Manchester to be printed; but at present the machine is well known on the Continent, and as far as we know, it is susceptible of printing with four colours; in fact it is a roller-printing machine. The rollers (two, three, or four) lie alongside each other horizontally, and the receptacles for the colours beneath. The yarn is kept in equal tension (wool yarns probably moistened with steam), for which there is an arrangement in the machine, which spreads it out thread by thread, as on a loom, the threads being then drawn between the rollers. For more exact patterns the warp is in some places crossed by some weft threads, which, after the printing, are drawn out. This is absolutely necessary for the chiné-style yarns. The variety of patterns which can be produced by means of such chiné-yarns is so great that the manufacture of them will be long in vogue.

Messrs. Andrews & Co.

In the printing of shawls very considerable mechanical improvements have been made by a French and by an Austrian exhibitor. M. B. Wulverik received, on Feb. 20, 1867, a gold medal from the "Société de l'Encouragement pour

l'Industrie Nationale" of Paris for several improvements which he carried out in the working of carded wool and in the printing of shawls in the establishment at Deville, near Rouen. The most essential part of the last-named invention, upon which there is a report in the "Bulletin de la Socétié d'Encouragement pour l'Industrie-Nationale," by Professor Alcan, is that a block provided with colour (the design being turned upwards) is fastened on a table upon which the shawl, stretched on a frame, can be let down. This being done, a second frame, covered with oilcloth, is laid upon the first; this oilcloth is then pressed with pads ("tampons") upon the shawl underneath, so that the colour may be equally distributed on the latter; small upright pegs, fixed upon the table, and for which corresponding holes are bored in the frames, serve as regulators. Of course, several blocks can be fastened side by side on the same printing-table. The printing-block does not receive the colour by being dipped into it as in the common hand-block printing, but by means of pads (tampons) which produce the same effect as the book-printing roller. It must be allowed that a great advantage is attained by avoiding the difficult and inconvenient moving of the block.

M. B. Wulverick.

Mr. T. Bossi, of St. Veit, near Vienna, also exhibits shawls, which are accompanied by undeniable testimonials, which attest that they are not produced by hand-printing but entirely by machinery. The machine is said to be patented in Austria, but we have not been able to obtain any details as to its construction.

Mr. T. Bossi.

In the wool-printing works of Larsonnier Brothers and Chenest, at Puteaux, near Paris (technical manager, M. Blanche), there is an arrangement which greatly facilitates hand-printing on light-combed woollen and mixed stuffs.

Larsonnier Bros. and Chenest.

The invention of this machine is most important to the manufacturers in the neighbourhood of Paris, who are compelled to seek for some means of rendering themselves independent of the whims of their workmen, whose wages are already higher than in any other part of France. The object of this apparatus is to enable less practised printers to produce accurate work. The piece of cloth to be printed is easily glued to the table, which is nearly 22 metres long, so that when partly moistened with the colour it is easily drawn. Iron rails that can be exchanged are laid along both sides of the printing-table, conical holes are made at regular distances on one side of these, and on the other side are corresponding grooves. The holes and grooves correspond exactly with the length of the hand-blocks. A strong movable cross-rail runs over these two straight rails. The

end next to the conical holes is provided with strong conical pegs fitting into the holes.

When the workman has printed the whole breadth of the piece the peg of the cross-rail is put on to the next hole on one side, and on the next groove on the other. On the side of the cross-rails are incisions wider at the top, but running to a point below, thus forming an acute angle with the point turned downwards. There are two strong pegs in a horizontal direction upon the wooden block. The printer sinks one of these pegs into the incision on the cross-rail. The converging sides of the incision or angle render this easy. The other peg rests only upon a bar of iron in the cross-rail. The distance between the conical incisions on the cross-rail corresponds exactly with the *width* of the wooden block. The arrangement is very simple, and answers the purpose of fixing the block quickly and securely in its proper place.

In conclusion, we have to mention some arrangements known under the name of "chassis à compartiments." The sieve, or "chassis à compartiments," has existed for some time, but presenting very different details. We have been favoured with a complete and detailed description, and with the personal inspection of two such apparatus. One of them is worked at Larsonnier Brothers, of Chenest, near Puteaux. It is applied to the Perrotine. The latter machine is, as already known, arranged only for four colours, whereas the "chassis à compartiments" allows the printing of twenty colours at the same time. It is the simplest and surest way to apply the "chassis à compartiments," that is to say, to the sieve of the Perrotine, the movement of which is horizontal. The thickened colours are put into small compartments, which are placed in corresponding holes in a strong piece of wood. The taking out of the colours is accomplished by means of copper pegs, which, being in a direction corresponding to that of the compartments, can be dipped into them. These pegs transfer the colours to a board upon which a number of pieces of felt or thick cloth corresponding to the number of basins are attached. Finally, the common sieve receives the colour from these pieces of cloth, transfers it to the block, the perpendicular motion of which again transfers it to the stuff. The arrangement is simple and very ingenious, and may be worked with great precision.

Messrs. Guillaume.

The other machine, already referred to, is to be seen at the establishment of Messrs. Guillaume (father and son), at St. Denis. It is principally intended for hand-printing, but is said to be also capable of being applied to the Perrotine.

The colours are also placed in pewter dishes or compartments, which can be pressed against a frame, in which there

are a corresponding number of holes. Stamps are hung through the holes, so that by the rising of the colour-compartments they dip into the colours. The horizontal, and afterwards perpendicular, movement of the stamp frame transfers the colour to the sieve. There is a piece of oil-cloth stretched on a wooden frame, on which again pieces of felt of the same number of colour stamps are fastened. The block receives the colour from this sieve in the usual manner.

These apparatuses will render most important service, especially in steam colours, particularly for wool and silk fabrics, when the designs are small and of many colours.

There are also in Class 45 many improvements which are based on the chemistry of this subject. We shall begin with the dyeing. Dyeing.

It is well known that the usual process of Turkey red dyeing is pretty much the same everywhere—in Scotland and Lancashire, as well as in Germany, Russia, France, and Switzerland—and that it consists in a number of empirical operations, which are not capable of being scientifically explained, and which require much time. It may be said that cotton requires a whole month of chemical operations before it is ready. As yet only the important establishments of Messrs. Steiner, at Accrington and Ribeauvilles, have become masters of a simplified method. Not only do these two houses produce the Adrianople red in a much shorter time, but it is the most fiery one produced. Messrs. Steiner's process.

In the French compartment of the Exhibition are to be found, in the department allotted to the articles from Rouen, Turkey red stuffs from M. Alph. Cordier, of Bapaume, near Rouen, which, although surpassed it is true in beauty and intensity of colour by many productions of the same kind, are nevertheless worthy of notice. M. Cordier.

M. Cordier informed the jurors of the class that these goods were made ready in five days; and, as a proof of the veracity of his statement, he proposed to return within that space of time unbleached cotton cloths, which should be marked in whatever way the jurors chose. Several pieces of calico, with a characteristic mark, were sent to him from Paris, and on the sixth day they were returned to the jurors and found to be exactly like those exhibited.

We remark that the dyed stuffs of M. A. Cordier do not betray the least sign of oil either in the smell or by the pressing between blotting-paper. Finally, it is to be observed that this red is capable of being discharged.

The exhibition of Chalamett Frères, of Puteaux, near Paris, may be regarded as an instructive curiosity. They

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show two large parallel rows of dyed merinos—the one dyed in colours formerly in use, the other row exclusively dyed with modern tar colours.

Chalamett Frères.

An impartial comparison is by no means to the disadvantage of the old colours. That the sharp penetrating tints of the fuchsine, aniline violet, or blue cannot be produced by the old processes is well known; but crimson scarlet, and many fashionable colours that are much liked in such combed-wool fabrics, are not to be attained by modern colours. The old and new green are pretty much the same. Light blue is somewhat dull in the new tar colours. Amongst the new colours is also coralline, which, when *fixed* by chloride of tin, is said to be a pretty *fast colour*.

Messrs. Guillaume (father and son) have in their fine collection of fabrics also specimens of a pomegranate-blossom colour, composed of fustic lake and fuchsine, instead of orchil, as was formerly the case, and which is said to possess important economical advantages. This new pomegranate-blossom red may, like the former kind of reds, be easily modified in different shades by means of indigo-carmine. The exhibited proofs are vivid and clear.

Messrs. Hulot and Berruyer.

The large silk and yarn dyeworks of Messrs. Hulot and Berruyer, of Puteaux, near Paris, exhibit silk, floss silk, wool, and cotton yarns in the most varied colours; also mixed yarns, which in equality of tint leave nothing to wish for. This collection is particularly interesting, as showing the application of some new colouring materials derived from tar. These are the newly discovered derivatives of aniline and toluidine due to the talented chemists Girard and Delaire. It is well known that the best process for producing fuchsine with arsenic acid and the discovery of aniline blue is due to those chemists.

The new colouring materials employed by Messrs. Hulot and Berruyer are:—1st. Manseaniline, one of the colouring substances found in the refuse of the preparation of fuchsine, but which may also be produced by a particular process. 2nd. Violet of manseaniline, produced by the working of iodide of methyle, or iodide of ethyle upon manseaniline. A combination of ethylmanseaniline or methylmanseaniline results, which produce a very beautiful violet. 3rd. Different colours produced from diphenylamine or from the phenyltotuylamine by the action of sesquichloride of carbon. A combination of the latter with a mixture of diphenylamine and diphenylolindine produces blue; diphenylolindine alone produces maroon (chesnut colour). Diphenylamine alone, a greyish blue violet. It seems by these discoveries that a great field is open for the producing of new shades of colours.

4th. Yellow from chrysotuotidine, also a substance found in the refuse of the production of fuchsine.

It seems particularly worthy of our notice that discord has arising among dyers concerning the bad practice of adding weight in the dyeing of black silk by all sorts of artifices. Thus from 50 to 70 per cent. above the original weight of the silk is very common, and an augmentation of the weight up to 100 per cent. not unfrequently occurs, so that the consumer has only half the quantity of silk he thinks he has, and to which he is entitled.

M. Gillet-Pierron. M. Gillet-Pierron, owner of two dyeworks, at Lyons and the other at St. Chamond sur Gier, and in which there are yearly about 300,000 kilograms of silk dyed black, has presented the jurors with a pamphlet containing the results of his examination of the various processes to which silk is submitted when dyed black. There is nothing very new in it, but some questions are cleverly treated, and there are some results which are of the greatest importance in a practical point of view.

Black silk-dyeing. We shall now give a short historical sketch of the newer methods of dyeing black silk without referring to the old ones or those used in Asia.

Instead of commencing the operation as formerly, by impregnating the cloth with a solution containing tannin, and then dipping it into the solution of a salt of iron, Gonin, in the year 1824, reversed the process, by first giving the iron-mordant with sulphate of iron, and then dyeing with logwood and fustic. Finally, he added another operation, a "bath" of campeche, mixed with soap. This black was called Lyons black, and sometimes English black.

The dyeing in Prussian blue was introduced in 1833. It preceded the black dye. The shading was good, and the silk heavier than with the old methods. In the year 1847 catechu was introduced in black dyeing at Lyons, instead of the extract of the chesnut bark or nut galls. It is believed that this mode of producing black was known in Germany, as well as in England, previously to that period. This black was called "mineral black." The whole process consisted, first, in giving a Prussian blue ground, then an iron mordant, and on this a catechu solution; and lastly a solution of logwood and soap. The black was of great brilliancy, and the silk, which retained its natural elasticity, was soft to the touch and the tissues were solid and durable. This method, says M. Gillet, ought never to have been given up.

In the year 1854 the Arabian henna (alcanna) was introduced as a substance containing tannic acid, instead of catechu, and soon afterwards both were used to produce

the so-called "noir d'Afrique." This black is of peculiar brilliancy, and very popular among silk manufacturers. In 1859 it was supplanted by the finer and deeper "noir Imperial," the production of which is still imperfectly known. In the same year another method, invented in Crefeld by a silk-dyer (Bakhaus), and for a long time kept secret by him, was brought over to Lyons by a Russian silk-dyer. It consists in employing salts of tin, which are added to the catechu "bath." This method was adopted at the same time in England, France, and Switzerland, and has ever since remained the basis of the production of the heavily weighted black-dyed silk. At first the increased weight of the silk was 20 per cent. Afterwards the dyer proceeded to 30, 40, 50, and even to 100 per cent. by repeating the impregnation with the above-mentioned substances.

Bakhaus' invention.

Classes of black dyes.

The different blacks on boiled silk may be divided in the following manner:—

1. Fine black (20 per cent. loss), especially used in the manufacure of velvet and for the finest fabrics. It is obtained by the use of several colour-solutions of fustic, weld, and quercitron-bark, which are preceded by a weak solution of acetate and nitrate of iron. When the iron mordant is not given first, a little sulphate of iron and copper is added to to the dye-beck. A "bath" of logwood and soap is always the last operation. With this class of blacks the silk retains its entire brilliancy and softness.

2. The 100 per cent. black, also called noir Imperial.—In this case the thread is much more weighted than in 1. The silk is first dyed in Prussian blue, then passed through a decoction of nutgalls, and lastly worked in a beck containing a solution of logwood and soap. Besides these, acids and colouring substances are employed, but they are not mentioned by the author.

3. Heavy black on raw silk.—This is produced by an iron mordant, fixed on the silk by a solution of boiling soap. These operations are repeated according to the amount and increase of weight intended to be given. It is then blued by means of yellow prussiate of potash; and lastly passed through a solution of perchloride of tin, which operation may also be repeated. A solution of pyrolignite of iron is also used to preserve the bluish tint, which otherwise would disappear when the silk is finally passed into "baths" of catechu. In this manner blacks weighted from 20 to 100 per cent. are obtained.

4. Souple.—The following peculiar mode of dyeing is very frequently used for weft. At the dye works of St. Chamond the iron mordant is first applied, washed out, and fixed with

a weak solution of soda; these operations are repeated according to the weight that is to be given to the silk. An acidulated solution of yellow prussiate of potash is employed to make it blue. But this blue is only precipitated on the gum (or glue) of the silk, and does not penetrate through it. In these operations the silk retains quite the touch of raw silk. It is made souple by a hot tannic acid solution, for which catechu, nutgall, dividivi, &c., are used. Perchloride of tin is put into the catechu baths or not, according to the desired weight or shade of colour; finally, a soap solution is used.

Effect of dyeing in bulk and weight silk.

In M. Gillet's dye works the following averages of the various classes of blacks are dyed;—black Nos. 1 and 2, 35 per cent.; of the common heavy black, 35 per cent.; of the very heavy black, 10 per cent.; and noir souple, 20 per cent.

M. Gillet found that the increase of the boiled silk with the heavy black was about as great in bulk as in weight; therefore, in a silk tissue with an increase of 100 per cent. of the weight, only half of the space is filled with real silk, the rest is colour, &c. which adheres to the outside, only a small part of the colour having penetrated into the fibre. He found, also, that the individual threads of a very heavily weighted raw silk, especially during the latter operations, had become widely separated, and that only the gum of the silk had taken the colour, the silk itself being but slightly coloured. It cannot be disputed that this swelling and separating of the threads of the raw silk in their single cocoon threads must injure its strength.

This result agrees with the experiments, thus silk is found much stronger in the serimeter than after it has been dyed heavy black.

A most interesting observation, which exactly coincides with what we have stated, has been made in the "Etablissement pour la Condition des Soies," at Paris, conducted by Professor Persoz. Silk dyed "heavy black" was handed over to this conditioning house. It was heated like raw silk, and on taking it out of the drying apparatus, it had become a partially pulverized mass, partly black, partly brown, from iron mordant.

Cannot what was here produced by heat be gradually effected by wear? This is most probable. We have, therefore, when we purchase heavy-dyed silk stuffs, not only much less silk than we think, but silk which has lost its principal property, namely, strength.

As a conclusion to our report on dyeing, we must mention the great perfection which has been attained in the dyeing of woven silk stuffs by Messrs. Petitdidier, of Paris, who

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have great success in this class of work, as well as in the cleansing of worn clothes (see below). The red dyeing, finishing, and watering fabrics are carried out by the same firm in the most careful manner.

Messrs. Petitdidier. Improvements in printing of fabrics.

In the printing of fabrics there are many new and also important improvements. Amongst the foremost is the application of madder extracts by printing direct on entirely unprepared stuffs instead of the method hitherto in use of dyeing with madder, garancine, pincoffine, or the flower of madder. In the Exhibition three different extracts have been employed. Mons. Scheurer and Rolt, of Thaun (Departement Du Haut Rhin), exhibit a great number of specimens in violet, pink, and red, most of which are intended for general use. Wherever there are large surfaces of colour the tint of colour is very uniform. The red and pink are clear, the violet well saturated, and without the least tinge of red. All these results have been obtained with "green alizarine," which has been produced by a method due to Mr. E. Kopp, and which is carried out at the works of Mr. Schaaf and Lauth of Strasburg. The most essential details of the process are the following:—

Mr. E. Kopp's method.

Madder is steeped in ten parts of water, containing sulphurous acid, to which is added one-thousandth of hydrochloric acid to saturate the chalk which madder contains. The whole is left together for from 12 to 24 hours, but must be stirred at intervals. The fluid is separated by transcolation on a piece of fine woollen cloth and squeezed out, the remaining madder being subjected to a second similar process. Both fluids are put together, and three to four per cent. of strong hydrochloric acid is added to them, which occasions a flocky orange coloured sediment, (this takes place quicker when they are heated to 50 deg., or at most 60 deg.,) and is collected and washed till the fluid is quite free from acid. This sediment is a mixture of different colouring matters, which resemble the purpurine of chemists, and Mr. Kopp has also called it purpurine. If the fluid which has run from the purpurine is boiled, flakes are again formed, consisting of alizarine, humic acid, and resin, which has been called by the inventor of the process "alizarine verte." The greenish substances adherent to the red colour, when applied to printing and dyeing, have no effect. It must be observed that by this method the *alizarine is separated from the purpurine.*

M. Schumberger, Son, and Co.

Other Mülhousen manufacturers—for instance, M. Schumberger, Son, and Co.—have exhibited some cotton fabrics, intended for common wear, or for furniture, which have been produced by the simple process of printing with a madder

extract. The red parts in the latter style are often very large, and the clearness and intensity of the colour is all that can be desired. Further, an observation has been made in this establishment which is in favour of this process—namely, that by it the so-called dead cotton (cotton mort) can be dyed, whilst it remains white in the ordinary mode of producing "garancine styles."

Mr. Pernot's process

The extract made use of by Messrs. Schumberger is that of Mr. Pernot. The process of its production is a mere mechanical one, and does not *admit of the separation of alizarine and purpurine, therefore they are mixed together.* According to the patent obtained by Mr. J. Pernot in Great Britain, he adopts the following method:—The madder roots are first carefully freed from earth and such like by washing; they are then finely ground in a small quantity of water, during which all contact with chalk, copper, and iron should be carefully avoided. The pulp which is thus produced is placed into a wire sieve, the holes of which are such that the particles of wood remain, while the pulp containing the colour passes through. The woody substance that remains is then washed, first with cold water entirely free from chalk, and afterwards with boiling water, till the water which runs from it is no longer coloured. The water which has been used for washing is allowed to cool, and is then mixed with chloride of calcium, by which an insoluble sediment is obtained, said to easily combine by heat with mordants. This sediment is collected upon a woollen cloth, in order to strain off the water, then pressed, dried, and pulverized. In the description of the patent there are some very unintelligible passages relative to the production of alizarine. It is said that in the production of alizarine, hydrochloric or sulphuric acid, or some other substance forming an insoluble combination with the colouring substance, (?) should be mixed with the fluid strained from the wood particles.

Further, it is said that the pulpy precipitate produced by chloride of calcium can be employed in printing in its damp state, but when used in the production of alizarine, it must be pressed and dried. But how this object is attained is not indicated, nor is alizarine made on Pernot's method a commercial article.

Austrian exhibitors.

There is in the Austrian department another exhibit in which the use of extracts is substituted for garancine in the production of that style of print goods. The extracts have been prepared after the method of Professor Rochleder, of Prague, and the goods are exhibited by F. Leitenberger, of Cosmonos, Bohemia. We do not know the particulars of this process. The whole of their products are very good;

Professor Rochleder method.

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the violet seems to us to have a tinge of red, but the red is full and bright. These gentlemen however employ also the dyeing process for several of their patterns, but use in it the extracts of Rochleder, instead of garancines or flowers of madder, &c., which are usually employed. We have not sufficiently accurate information on the methods of application of those different extracts to justify us in publishing them.

A fourth extract of madder is mentioned, namely, that of Messrs. Messonier, exhibited in Class 44, among the chemical products, but which we do not find at all applied in Class 45. We cannot therefore report upon it. The method of production of this extract is also unknown to us.

When we compare the length of time and amount of trouble required by the processes hitherto in use of producing the so-called madder or garancine styles, with the new method, which consists in nothing but simply printing upon entirely unprepared cloth, we cannot but admit that we are on the eve of a complete reformation in the production of the numerous and beautiful class of goods.

Thus until now--1, the thickened mordant had to be printed on; 2, it had to be dried by being hung for three days up in the ageing-room; 3, an impregnation of cow-dung was given; then 4, it had to be washed; 5, it was dyed with madder or garancine, pincoffine, (commercially alizarine), or flowers of madder; 6, the goods had to be submitted to the clearing process, which is subdivided into different operations, the principal ones being acid baths and boilings in a soap solution.

If all the washings which occur between each operation and the repetition of the several processes necessary to the cleaning of goods were counted, they would amount to from fifteen to twenty.

The specimens produced by the printing of extracts leave nothing to wish for, as we have several times mentioned, particularly as regards the depth and freshness of colour; they are also fast and can bear soaping, as we have proved it with the specimens exhibited by Messrs. Scheurer-Rott.

I may add in conclusion that the whites in new methods of producing madder styles are, as already stated, extremely beautiful, which is not the case in the ordinary dyeing process, as the not mordanted ground easily takes the colours which are difficult to get rid of even by bleaching on the grass. For lilac patterns chlorine is of more use in the clearing of fabrics than in the bleaching of the grass; and it may be said that the solution of bleaching-

powder cannot be applied without danger to thin and fine tissues.

Messrs. Steinbach Koechlin, of Mülhousen, have tried the printing of very weak solutions of bleaching-powder upon the white grounds of thin fabric that cannot bear much chlorine, and this only on the backs of such goods, and have arrived at most satisfactory results.

Messrs. Steinbach-Koechlin.

Many very ingenious improvements are shown in the printing of silk. M. Brunet Lecomte exhibits pieces of dyed and printed silk stuffs which are produced in a most peculiar manner. The designs are small, and consist mostly of from two to four colours. These colours are mixed and, with a resist containing resin and fatty substances, printed on. After being perfectly dried the pieces are dyed, in order to give to the ground the desired tone. They are then washed, dried, and drawn through a closed box in which there is benzine or a similar hydrocarbonaceous fluid, calculated to dissolve the resin and fatty substances. The action of this reserve is only mechanical, and on being removed the colours appear. The pieces produced by the process and exhibited are very satisfactory.

M. Brunet Lecomte's method of printing their fabrics.

It is easy to conceive that when this method is perfectly understood great advantages will have been attained in the printing of thin fabrics. It is well known that there are great difficulties attending the printing of small designs in the dark grounds of thin fabrics; while by this method the ground of the piece and the design are quite independent of each other. We call attention to the dyed warps, from which huge masses of colour are taken out by discharge, and on which the design (for instance in black), is then printed. Such articles are exhibited by Messrs. Troester and Co., of Tallien (Isère).

M. L. Chocquel, of Paris, exhibits organdies. The printed patterns are stripes of little flowers and leaves, or arabesques, which produce very little effect upon such a thin, transparent stuff. But here the effect is heightened by putting the patterns upon a thicger white stripe, introduced into warp. In this way the pattern stands out more strikingly.

M. L. Chocquel.

Messrs. Guillaume, of St. Denis, have succeeded in producing, by printing upon mixed fabrics, as well as upon alpaca, an uniform ground in different fashionable colours. This process admits of the employment of stuffs which have not a clear white.

Messrs. Guillaume.

The same house also exhibits warp-printing in goat's hair, on which the ground colour (for instance, pale green) and the design are printed at the same time. The weft is white; by this means the pattern comes out much clearer than in the

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former manner of printing on white warp and giving the ground colour by means of a coloured weft. There are also very pretty attempts at imitating, by printing, the present fashion of sewing beads or bugles on different articles of ladies' dress.

Various exhibits.

Messrs. Petitdidier, of St. Denis, exhibit a great number of silk stuffs, woollen stuff, and silk ribbons, upon which are printed raised bright round spots. The colours are different, but black prevails. These manufacturers call it "stelliner." The spots are fixed by means of a composition of resin, and are not only made fast but the colour does not come off either by the warmth of the hand or by laying one piece over the other.

By way of appendix, we shall notice some products of bleaching, dressing, renewing, and restoring of worn stuffs.

The firm of Verité, Schlules, and Co., at Courbevoie (Seine), has acquired a great reputation for the bleaching of Orleans, which were formerly imported from England only in a bleached condition. They are now imported in a raw state, and the firm just mentioned bleach them for the dyers and printers in the finest manner.

The finishing methods ("apprets") employed by Mr. Cing Rupp (Boulevard Mazar, 138, Paris) present great variety, especially for gauzes, sultanes, poplins, organdies, and the different barèges; they deserve the increasing universal approbation they meet with.

S. Barlow and Co.'s cotton fabrics.

The finishing of cotton fabrics, in order to give them the appearance of silk, exhibited by S. Barlow and Co., in the English department, is much approved of.

M. Petitdidier's new cleaning process.

M. Petitdidier, whom we mentioned above in speaking of cloth-printing, has placed before the public a very interesting branch of industry.

In Paris great numbers of heavy silk dresses are embroidered. If the colours of the stuff or of the embroidered designs be light, they generally leave the hands of the women who have been employed in working on them for several months in a very dirty condition. The new method of cleaning of the above-mentioned establishment is by means of fluid hydrocarbon, which does excellent service, as is proved by the cleaned and uncleaned stuffs exhibited together. This cleansing process is also applied to worn dresses. The firm of Petitdidier has treated within the last four years about 20,000 embroidered silk dresses in this manner.

Apparatus used in Shooting, Fishing Tackle, and Implements used in Gathering Fruits obtained without Culture.—(Class 49.)—By Major Edwards, R.E., and Wentworth L. Cole, Esq.

The peculiarly elaborate classification of objects which the Imperial Commission had thought fit to adopt, and the attractive and exhaustive heading of this class, were but hardly justified in the very miscellaneous supply of exhibits which it embraced. Indeed, it is not hypercritical to assert that there were but few objects which displayed either novelty of invention, choiceness of manufacture, or such a singularity of excellence as would have attracted the general visitor.

Much allowance must be made for the fact that Class 37 has already exhausted the notice and review of the weapons and equipments belonging to the sportsman, which would otherwise have been treated of in Class 49. Shot-guns, sporting rifles, and the necessary paraphernalia, large and small, with which the sportsman is accustomed to furnish himself, are totally exempted from our present remarks, and it need not be pointed out that the absence of these articles, which include the ingenuity and talent of so many branches of manufacture, has considerably narrowed the scope of our investigations.

Limited as may have been their attractiveness, it may, however, be advisable to separate into three different sections the articles contributed by those countries which were in any way represented in this class. But it must be borne in mind that no less than 12 countries entirely failed to put in any appearance at all in this division, and that the total number of exhibitors in Class 49 does but amount to 179, which, as regards their several countries, is thus divisible :—France, 56; Belgium, 1; Austria, 5; Spain, 2; Denmark, 4; Sweden, 10; Great Britain, 6; Norway, 78; Russia, 8; Italy, 7; Egypt, 1; America (Oneida Community), 1; total, 179.

Countries represented.

Under the first section will be passed in review—not too minutely—apparatus connected with sporting generally, including shooting equipments, fishing tackle, baits, nets, traps, lines, and hooks. In the second section will be found apparatus and implements specially used in pisciculture and fish-curing. And the third section will embrace apparatus, appliances, means, and equipments for divers and those engaged in submarine and subaqueous works of every description.

APPARATUS USED IN SHOOTING, FISHING, &c.

Fishing tackle.

SECTION I.

In the case contributed by M. Cleret (8, silver medal) both the fishing rods and tackle may be pronounced of fair average quality, such as are purchaseable of all the best makers. The same remark applies to the well-arranged collection supplied by M. Moriceau et Fils (13, silver medal). The assortment of tackle exhibited by M. Robillard, of Paris, is remarkable for a variety of floats emblazoned with the arms of all nations or fashioned into all kinds of grotesque figures. But it is necessary to premise that the winches and hooks are nearly all of British manufacture; and that the "flies" exhibited, if not actually made in England, are certainly tied to an English pattern. Perhaps to these contributors may be added M. Warner (11, bronze medal), whose case is but little inferior in its contents to those already mentioned.

In Great Britain, Aldred (1, silver medal) contributed a very complete arrangement of rods, lines, nets, and winches. He has been long notorious, both to the trade and the general customer, for his "glued-up triangular rods," each joint being composed of three pieces of carefully selected cane glued together longitudinally. The cane he imports himself, and keeps in store for a considerable length of time. These rods, as experienced sportsmen will testify, resist weather, and wear without warping or twisting, and retain their pliability under constant use. This same maker's "registered lever check and multiplying winch" possesses superior power and convenience from its very simple action and the ease of winding up the line under a weight of many pounds. Mr. Aldred also furnished an excellent collection of bows, arrows, and archery accoutrements. The arrows were delicate specimens of the inlaying craft in mother-of-pearl, ivory, and different fancy woods.

Ryder (7) (honourable mention) was remarkable for a collection of admirably finished winches, "secret multiplyers, "salmon, and ratched brass salmon" winches. The case of Mr. Farlow (4), though containing articles of first-rate workmanship, was too small to receive further or particular notice. It is but just, however, to add that the collection of flies exhibited by this maker was certainly the best in the Exhibition, though this branch of the angler's art has not been very extensively illustrated.

From Class 40 a portion of the contributions were selected by the jury of Class 49.

Among these, Kirby, Beard, and Co., the well-known pin and needle manufacturers, have obtained a silver medal for their highly finished collection of well-tempered fish-hooks, harpoons, and grain-heads. APPARATUS USED IN SHOOTING, FISHING, &C.

H. Milward and Sons, Bartlett and Sons, and Boulton and Sons also showed fish-hooks, harpoons, and eel-spears in Class 40.

Stuart, in Class 39, has received a silver medal for some machine-made nets exhibited by his firm of first-rate texture. Machine-made nets.

The articles exhibited under the head of fishing tackle in 1851 were almost entirely of British manufacture; but it is now found that many branches of the trade have their habitat in Paris and French manufacturing towns.

The appointments and appliances, and indeed every implement that is used in deep-sea fishing, have received from one country or the other with an extended seaboard a fair and satisfactory display. The Norwegian contributions may be especially cited as possessing all the features of excellence or practical value in equipments used in the capture of sea fish. Owing, however, to the confused numbering and imperfect separation of the exhibitors in Norway, we are only able to speak of the whole collection as that contributed by the nation. This does not prevent us, happily, from noticing the nets and lines which I. O. Dahle (21, silver medal), sends from Lövö. They were commendably strong; the herring-nets may be quoted as specimens of delicate yet strong texture. We cannot forbear to remark favourably upon the glass floats shown by Aasnæs, calculated, with proper care, to last out endless relays of cork floats (1), as well as the fisherman's leather dress sent by the Comité de Vardö (17).

Of the four exhibitors from Denmark the only one worthy of special attention is Fiodler (2), who contributes some well-finished nets of various sizes.

In Sweden the Institution des Pêches en Suede (8, silver medal), displayed an assemblage of models of fishing-boats in use on the lakes of the country, with lines and nets of the ordinary manufacture.

There were but two contributors from Spain. The nets of C. Falra (1, silver medal) were remarkable for their strength, evenness, and fineness of material. It would not be too much to pronounce these perhaps the best nets in the Exhibition.

Nothing worthy of special commendation reached the Exhibition from Russia in this class.

It is but just and proper to speak in terms of high praise of the array of appurtenances and the ample amount of MS.

Apparatus used in Shooting, Fishing, &c.

and printed information belonging to deep-sea fishing exhibited by France. The machine-made nets of all sizes, together with fishing appliances of every description, sent by Broquant et Cie. (54, silver medal), indicated great care in their manufacture, being substantial and of the best material. In this collection a fancy silk net (tricolour) is sure to have attracted attention.

Derien, Camus (52), certified that no less than 1,200 codfish have been taken on one sinker and pair of hooks which he exhibited.

Jouannin et Cie. (70), transferred by the jury of Class 55 and 56, has been awarded a silver medal for a net-making machine worked by steam-power. The needful movements and combinations are effected automatically, and produce, at small cost, a superior article.

Peyron (42), who obtained a silver medal at Arcachon, exhibited a bait called "gueldre," which is the spawn of shrimp and small fry preserved in a special description of brine, which endures for twelve months. Its price is from 30 to 40 per cent. below the price of cod-roe, the bait in general use.

Singularly enough, Great Britain had but one contributor of lines and nets. Mr. Hounsell (5), of Bridport, worthily represented his country. Want of space alone seems to have prevented him from exhibiting every description of net, infinite as their variety is. The caplyn seine and lance bunt are seldom seen by a European public. The lance bunt used by the Newfoundland fishermen to capture the lance, which is used as bait for their hook and line fishing, has the smallest mesh of any deep-sea net. The twines, lines, nets, and canvas in this case need no further commendation, as they are in general acceptance by the public.

Buchanan (16), of Glasgow, furnished a case of fish-hooks in universal use along the British, Dutch, and Norwegian coasts, as well as those of Newfoundland. These hooks being of steel, are not only neater and stronger than the ordinary iron hook used on the coast of France, but they need less bait in setting the hook.

Hunting and shooting equipments.

Equipments and appliances for hunting and shooting were neither numerous nor remarkable for novelty. Among the French exhibitors, M. Bluteau Venier (12, silver medal) laid out a good case, in which the game bags were most conspicuous, being very highly finished, light, and strong. Boche (14, silver medal) had some powder horns and shot-belts of neat manufacture, and a cartridge-filling machine having separate compartments, by which the charge of powder and shot and the introduction of the wads are mechanically regulated.

Cart et Lallemand (15, silver medal), L'Esprant (16, silver medal), have contributed powder horns and cartridge cases of merit and suitability. Toft (24, silver medal) showed also excellent workmanship in game bags, gaiters, pouches, and leather work generally. Apparatus used in Shooting Fishing, &c.

The steel hawk and rat traps of M. Criton (35), though unrewarded, will be sure to have attracted the remark of any one specially interested in the destruction of vermin by the delicacy of their spring, and strength, and finish.

From the United States a very interesting and serviceable set of traps used for the capture and destruction of the smaller beasts of prey, such as the wolf, polecat, skunk, &c., was despatched. It is not out of place to record the fact that the Oneida Community, which contributes these specimens, is an associated body, mainly depending for their means of living upon the superior description of such traps as are here exhibited.

As objects of curiosity the snares and cloths for wolf hunting from the Royal Sporting Club, Stockholm, the Lapland gun and knife, Lapland sledge and snow-shoes, and the Laplander's reins may be mentioned among the contributions from Sweden, which were otherwise of no interest.

Section II.

The second section included instruments and appliances of pisciculture; apparatus for the hatching of fish, rearing of fish fry, transport of fish; aquariums, implements destined to facilitate the restocking of rivers—such as salmon ladders, salmon passes, &c.—and, finally, the plans of the establishments of pisciculture, and such scientific works as bear upon these subjects. To these may be added the utensils used in curing and preserving fish. Apparatus and appliances for pisciculture.

France may be signalized as the country more especially in which pisciculture has been systematised and developed. Indeed, it is the only nation which has, until within the last year or two, concerned itself in the rearing and distribution of the coarser breeds of fresh-water fish.

M. Carbonnier (7, silver medal) has bestowed no ordinary care in the rearing and improvement of eels. A large quantity af the fry of this fish he had selected for display in a glass aquarium. He also contributed two specimens of the pearl mollusc, on which he had successfully experimented.

Dr. Kemmerer, of St. Martin's, Ile de Ré (18, bronze medal), a well-known enthusiast in oyster culture, has prepared several pamphlets and MSS. on the breeding and rearing of oysters and mussels. Dr. Kemmerer is the in-

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ventor of a tile covered with composition for catching the oyster spawn, so that it can be easily peeled off and a crop of oysters readily removed from the *parc*, or bed, where they are grown, to the *claire*, where they are fattened.

Among the contributors of pamphlets containing records of experiments Le Comte de Galbirt—who has long honourably distinguished himself by his administration over the piscicultural establishment at Buisse, on the south-east frontier of France—takes his customary place. He has been worthily awarded a bronze medal for his enterprising labour and perseverance.

Vicomte de Beaumont (39, bronze medal) displays lake trout produced from eggs received from the establishment of pisciculture at Huningue, as well as a specimen of common roach, produced from a couple acclimatised in the department de l'Avegron, where the species did not formerly exist. He also shows an improved hatching-box, with the tubes of the glass grating sufficiently close to prevent salmon fry from passing through them. After hatching, this grating is lowered to the bottom of the trough; the tap of the box allows the bottom of the apparatus to be cleaned without disturbing the fish, while three-fourths of the water is run out.

Of the contributions from the various French public departments, that forwarded by the Service Hydraulique du Département de la Sarthe was sufficiently complete. The specimens of various fish from the River Loire were displayed, as well as salmonidæ and eels raised in the departmental establishment. Here, too, are the various means of transport used by the service successfully in its manifold operations of pisciculture.

The appliances for transporting young fry consist of:—

1. Basket or hamper to contain 12 boxes of fry. Price 1f. 25c. (1*s*. 0½*d*.) The open wickerwork of this basket admits the circulation of air, a necessity for the transport of young fish.

2. Twelve boxes for the young fry to be packed in. Each 75c. (7½*d*.) The size of these boxes—1,500 to 2,000 fry can be placed in each. The wire gauze which covers three sides of each box is intended to promote the free circulation of air absolutely necessary for the young fish. Each is furnished with a sufficient quantity of moss for the separation of each fish, in order to prevent their contact with each other, a fruitful cause of mortality.

3. A larger box than the preceding, capable of keeping fry in health for as long a period as 20 to 30 days in case of need, and, when placed in running water, 40,000 to 50,000 fry. In this they can rest after a long journey, facilitating

their being forwarded, when a favourable opportunity occurs, without loss of time. This is a moveable reservoir, which can easily be placed in any stream of water and managed without difficulty; its price is 15f. (about 12*s.*)

4. A pail or bucket for the transport of young fry, to contain about 1,000. A grating, the lid of which is arranged to allow the water to be changed without fear of losing any of the fry.

This department has sent away this year to various applicants no less than 160,000 eels, with the loss during transport of barely a dozen fish. The piscicultural implements are accompanied by a full description of baskets, pails, hatching-boxes, and of the labours of the department and its results. The eel appears to be an especial object of favour and interest with all interested in the propagation of fish for food.

Donillard de Mahandière (40, bronze medal), who compiled a description of the Reservoirs du Bassin d'Arcachon and of the fish and produce it contains, exhibited fishing apparatus, plans for the establishment of reservoirs for live sea fish, and specimens of fish at various ages and stages of growth.

Leroy (30, bronze medal) is another of the enthusiasts striving to replenish with fish the salt portions of the Loire. Amongst his contributions were aquariums, floating tanks for small fish, which may be pronounced to be of the usual character and fair merit.

As might be expected, the French section was well supplied with pamphlets, suggestive and descriptive. Engaged in superintending pisciculture, M. Rimbaud, Thomé de Gamond, Lionel Benard (who treats of the different sources of salt in the world and its uses in various industries), Wallon, and Souberain may be named as those of special authority.

M. Ouizille et Cie., France (3, bronze medal), who have produced a model of a new boiler with a varied temperature, specially intended for the curing of sardines in oil, which not only economizes the cost of their production to the extent of 50 per cent., but improves the delicacy and flavour of the fish, by more easily removing the impurities given off during the culinary process. It is needless to add that this adjunct to the breakfast and luncheon table is daily becoming more appreciated, both in England and France.

The Commissioners of Irish Fisheries, Great Britain (4, silver medal), have taken considerable pains to illustrate the enterprise under their control. They showed four models of fish passes, the second of which may be erected over mill-weirs or dams of rivers without injuring or impairing the water power to the mill. The model No. 3 is of a pass which

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may be built up stream, so as to discharge the water at the foot of the dam or weir, and thus form a lead easily found by the ascending salmon. Model No. 4 is of a pass built over a natural fall of rocks nearly 30 ft. high, in the River Collooney, in the county of Sligo, which has enabled salmon to ascend to the upper parts of the river, previously inaccessible, and has created there a very valuable salmon fishery. Mr. T. F. Brady, the secretary to the Commission, is distinguished as a designer of this kind of pass.

Besides the model of snap-net fishing for salmon, there were designs for gratings to prevent salmon entering mill races or leads; and a working model of an Irish trawl boat, with nets complete, for deep-sea fishing is worth examination. But the best evidence of the earnest purposes of this Commission is the fact that the chairman and secretary have designed objects and appliances already used with some success in their district fisheries.

The Etablissement de Pisciculture d'Huningue (silver medal) maintains the reputation which it has already acquired in Europe by an admirable display of its aims and functions.

Six of the most imposing tanks in the grotto aquarium, which was allowed to be one of the most prominent attractions in the Jardin Reservé, came from this establishment. We are tolerably familiar with the carp, jack, perch, &c., reared by this and similar establishments; but the fresh-water fish Silurus Glanis, disporting himself in tank No. 9, was certainly an unexpected sight for all interested in pisciculture. Efforts have been made by the Acclimatisation Society of Great Britain to show that the silurus will profitably stock the huge wastes of water with which our islands abound. It grows to the size of from 200 lbs. to 300 lbs. in weight where space and food are plentiful. It is reported to be superior to the salmon in flavour, and prefers to every other supply of food the frogs with which our ponds are infested, and which are not used by us either as food or a means of producing food.

It must be remembered that this grotto aquarium, and its more pretentious but less unsuccessful rival, the salt water aquarium, were the only representatives of the proposed class (82) which was set down as designed to embrace fish crustacea and mollusca. Every visitor to the Exhibition will remember the attractions offered by the singularity of the structure, the picturesque arrangement of the tanks, and the varied specimens of aquatic life contained in them, which were to be seen at the grotto aquarium. The grotto, it has been frequently remarked, itself afforded a grateful shade during the heat of the day, apart from any consideration of the practical purposes for which it was built.

In Norway, the Musée de Bergen (52, silver medal), was represented by a model of their establishment of pisciculture.

Apparatus used in Shooting, Fishing, &c.

Section III.

Apparatus and appliances, means and equipments for divers and those engaged in submarine and subaqueous works of every description.

Apparatus used in diving and submarine works generally.

France is the only country contributing diving apparatus in this class. M. Cabirol (47, silver medal), who has obtained distinction for his diving apparatus and submarine lamp at the International Exhibitions inaugurated by that of 1851, affords a conspicuous collection. In addition to the ingenious lamp for submarine observations, which affords a continuous effective light under the water from the constant draught of fresh air derived from above to supply the combustion of the lamp, M. Cabirol also exhibits a very useful and simple apparatus of mouthpiece, piping, and air-belt for use in shallow water. Its cheapness may be appreciated by the fact that its price does not exceed 6*l.* sterling.

Messager (48) furnished diving apparatus, the specialty for which he claims to be a leaden collar which can be released at will by a simple action of the hand, and the diver is thereby enabled to ascend to the top of the water almost instantaneously.

Galibert (50, silver medal) was distinguishable for his respiratory apparatus, which permits the wearer to penetrate into the midst of smoke and fire or to remain unharmed in foul air, choke-damp, &c. A reservoir of little more than two pounds weight communicates with the lungs by means of two tubes opening into a little case in the mouth of the operator, where it is kept steady by a slight pressure of the teeth. The air can be inhaled and exhaled several times during a space of from 15 to 30 minutes, and the wearer of the apparatus knows by the frequency of his operations when it is time to retreat.

For the sum of 125f. (5*l.*) the belt and cord, glasses, nose pincers, whistle call, and the metallic box which contains them all, are offered to miners, firemen, well borers, and those engaged in chemical experiments of every description. Half a minute suffices to inflate the reservoir, which is so simple in its construction that any one can use it without previous practice. As a means of escape from a ship on fire it was the subject of a favourable report from the Vice-Admiral Compte de Gueydon to the Minister of Marine.

Diving apparatus of Messrs. Rou-

The only gold medal in this class has been awarded to Messrs. Rouquayrol et Denayrouze (55 and 56), who have

Apparatus used in Shooting, Fishing, &c.

Quayrol and Denayrouze.

obtained very favourable reports from the French, British, and foreign governments respecting their diving apparatus, which is capable of being employed in all subaqueous enterprises.

In the improved appliances furnished by this firm, the diver, to whatever depth he may be submerged, is always enabled to inhale air of the same pressure as that of the surrounding water. By the constant supply of fresh air afforded to the diver and the free escape of the air that he has breathed, the diver has been enabled to remain an hour and a half under water without any perceptible difference in his pulse or appearance. The dress employed in the new equipments being only used as a protection against cold, is lighter than the ordinary dress, and consequently permits greater freedom of action in working under water. The method of action of the apparatus also allows of its being used by men who have not been trained to it in any way, and without there being any fear of accident likely to endanger the diver's life.

The breathing apparatus, called by the inventors the "regulator," is entirely independent of the waterproof dress and helmet, and may be used either with or without them. The regulator consists of a cylindrical air chamber or reservoir, an air-box, with an air-valve connecting the two chambers; it is also fitted with a back plate, breathing-pipe, and straps.

The air-chamber is made of sheet iron or steel, of sufficient thickness to enable it to support the pressure of the condensed air and to give sufficient weight to the apparatus.

The air-box is made of thinner sheet iron, and is soldered on to the air-chamber.

The air-valve is fitted by a screw-threaded valveway into the air-box, and by an ingenious mechanical arrangement the exhaled air is returned into the air-box, whence it is discharged through the outlet valve, which is soldered on to the top of the air-box. This outlet valve is of very simple construction, consisting of two thin pieces of caoutchouc cemented together at the sides, but open at the top and bottom; the pressure of the surrounding water and the yielding nature of the caoutchouc prevent the water from entering the air-box, and render the action of exhaling perfectly easy.

On the Berge de la Seine a full opportunity to witness the working of this well-arranged set of diving equipments and apparatus was afforded to every visitor.

The rapidity with which the apparatus could be put into action, and the confidence with which it was employed by every one choosing to experiment with it, afforded additional

Experiments by Lieut. A. Denayrouze.

testimony of its value. It is, in a word, in point of safety, sanitary considerations, and simplicity, preferable to the ordinary apparatus.

The record of the experiment, by Lieutenant A. Denayrouze, of the French navy, who himself superintended the cleaning of the bottom of the armour-plated ram "Le Taureau," illustrates the practical value of the apparatus more emphatically than any conjecture or mere opinion.

The armour-plated coastguard vessel "Le Taureau" is a ship of 2,500 tons burden, and is fitted with a twin engine of 200 horse-power and a pair of two-bladed screw propellers. This vessel went out of dock on Nov. 17, 1865. About four months afterwards, say on March 15, 1866, vegetable deposits were remarked on the submerged portion of the armour-plating, near the water mark. This growth was about 5 in. or 6 in. long.

It was ascertained by a preliminary examination, made by means of this diving apparatus, that vegetation somewhat resembling tufts of heath had formed on the copper sheathing. This vegetable growth was intermingled with a large number of barnacles, or mussels, and on the vessel's sides were numerous minute shells. The armour-plating was covered with green slime of some length and thickness.

By order of the Vice-Admiral Maritime Prefect of Toulon, by way of trial, the cleansing of the bottom of the "Taureau" was undertaken.

The divers had first to be prepared. Among the crew there was only one man in the list of sailors that were employed who knew how to use the apparatus. There were stokers who had dived with the ordinary apparatus, and gunners and helmsmen who had never dived at all with any apparatus; also, the requirements of the service interrupted from time to time the progress of the work. The "Taureau" had to make three cruises to try its engines, and one cruise to St. Tropez. The following table gives the various details of the work.

1866.	Names of Divers.	Time passed under Water. A. M.	Time passed under Water. P. M.	Work done and Condition of Ship's Bottom.	Wind.
		H. M.	H. M.		
Mar. 14	Chastel, gunner, used to the apparatus.	—	1 30	Cleaned port side at the fore. Bottom chiefly foul under the armour-plating. Brought up plants from 5 in. to 7 in. long. Used bristle brushes.	N.W. Chopping sea.

APPARATUS USED IN SHOOTING, FISHING, &C.

1866.	Names of Divers.	Time passed under Water. A. M.	Time passed under Water. P. M.	Work done and Condition of Ship's Bottom.	Wind.
		H. M.	H. M.		
Mar. 15	Aliziari, fireman -	—	2 30	Cleaned port side at the fore. Bottom more foul. The diver brought up green slime 3 c. m. say 1 ft. long. Used bristle brushes.	Calm.
Mar. 16	Chastel, gunner -	1 30	—	Cleaned port side at the fore. Plants and small clusters of vegetable matter near the keel. Used bristle brushes.	Rain.—S.W. Rough.
Mar. 18	Juisy, fireman -	1 55	2 7	Cleaned port side at the fore, from abaft the turret to afore the funnel. Brooms and brass wire brushes used.	S.E.—Calm.
	Aliziari, fireman* -	—	3 28		
Mar. 21	Doullié, fireman -	1 45	2 35	Cleaned port side. Slime, plants, with very small barnacles or mussels. Brass wire brushes used.	S.—Calm.
	Chastel, gunner -	2 6	3 17		
Mar. 22	Juisy, fireman† -	1 30	—	Cleaned starboard side, fore end. Same state of bottom as on port side. Wire brushes.	Stiff breeze, N.W.—Heavy sea.
	Doullié, fireman -	0 47	1 13		
	Chastel, gunner -	1 25	1 29		
Mar. 23	Dupil, capt. of gun -	1 25	3 2	Cleaned starboard. Wire brushes.	Cloudy. Calm.
	Chastel, gunner -	—	1 28		
Mar. 27	Guérin, capt. of gun	—	1 10	Cleaned starboard. Wire brushes.	Stiff breeze, N.W.—Heavy sea.
	Dupil, capt. of gnn	—	2 2		
Mar. 28	Bernard, helmsman	—	1 57	Cleaned starboard, with wire brushes and bristle brushes.	Sharp breeze, N.W.—Rough.
	Guérin, capt. of gun	3 9	—		
	Dupil, capt. of gun	3 27	—		
	Chastel, gunner -	—	1 52		
Mar. 29	Dupil, capt. of gun -	2 20	3 25	Cleaned starboard, with three divers under water together.	N.W.—Chopping sea.
	Bernard, helmsman	—	1 32		
	Guérin, capt. of gun	—	1 48		
	Chastel, gunner -	1 22	—		
Mar. 30	Bernard, helmsman	3 29	—	Cleaned screw-propellers, rudders, horizontal shafting. Two divers under water together.	Calm.
	Doullié, fireman -	3 1	—		
	Chastel, fireman -	0 28	3 15		
	Guérin, capt. of gun	—	2 4		
April 2	Bernard, helmsman	—	3 15	Cleaned port. Three divers under water together.	Calm.
	Doullié, fireman -	3 3	—		
	Dupil, capt. of gun-	3 15	3 41		
	Guérin, capt. of gun	3 22	3 36		
April 3	Bernard, helmsman	2 5	3 30	Finished the work with three divers under water.	N.W.—Chopping sea.
	Dupil, capt. of gun	3 34	2 46		
	Guérin, capt. of gun	1 6	2 47		
	Chastel, gunner -	—	56		

Total time occupied, 109h. 9 min.

* Is a very long while under water, but does not work quick enough.

† Is no longer employed to dive.

The chief difficulty consisted in deciding on a proper mode of sending the workmen to the various parts of the ship's bottom. However, this was accomplished very simply and conveniently by a contrivance that is particularly applicable to this description of work.

A rope ladder was passed under the ship's keel, from one side of the deck to the other; this ladder had wooden rungs; it was made stiff at the sides, and was moved fore and aft in compliance with the diver's signals. The diver took down with him an iron bar or stage, which was kept horizontal by a support hooked at one end. The diver used this bar or stage either as a step to stand on or as a seat to sit upon. He cleaned the straight, flat part of the vessel quite easily, and for this purpose stood upright on the stage.

But when under the keel and in the recessed or hollow part of the vessel, he found that by inflating his dress with air, and thereby varying his displacement or burden, he was able to come close against the vessel, lying nearly horizontally on his stage. Now, were he to have attempted such a change of position with the ordinary diving apparatus, it would have been very dangerous; in fact, he would have been liable to come up to the surface feet foremost. With this improved apparatus and equipment, however, the inhaling apparatus being quite separate from the dress, which acts merely as a protection against the cold, a diver can get to all parts of the vessel's bottom. Hence he is enabled to keep the submerged portions of the vessel perfectly and thoroughly cleansed.

The caoutchouc dress, properly speaking, serves the diver as a sort of bladder or air-bag, which he inflates or empties at pleasure, and thus varies the displacement about 30 cubic inches without interfering with the arrangements which regulate his artificial supply of air; and from this circumstance the diver is enabled to work with remarkable facility all over the hull below water-mark.

Sailors soon get accustomed to this description of work. The preceding table shows that gunners and helmsmen, though wholly unacquainted with the art of diving, managed after a few days to work several hours under water. They would only have been permitted to work for fewer hours; but, after they had remained three hours and a half under the water in the morning, they came up without fatigue, their complexion in a natural condition, and their pulses regular, they offered to go down again in the afternoon. Their arms only were somewhat tired in the evening, owing to their having while under water moved the brush continuously.

APPARATUS USED IN SHOOTING, &c.

Men being thus enabled to move about the ship's bottom freely, can keep it thoroughly cleansed while the vessel is at sea. For this purpose no special arrangements of a character likely to involve trouble in fitting up at sea are necessary, such as scaffolding, stages, &c. Whatever be the weather or state of the sea, men can go under water and work at the vessel's hull with the rope ladder, the iron bar or step, and the pump on the deck or battery.

M. Denayrouze mentions that while engaged in superintending the cleaning of the "Taureau" they encountered two stiff breezes from the north-west; the work was, however, continued, and the divers found that at a depth of 5 ft. they ceased to feel the swell, and worked just as if in calm weather.

When they desired to come up they inflated the diving dress and floated on the surface of the water in an upright position; they thus got easily away from the vessel on which they were working, and went into a boat or raft near at hand, on which I usually placed the pump; but when there was too much sea I set the pump on the deck of the vessel itself.

IMPLEMENTS USED.—The divers removed the marine plants and the small barnacles or mussels with straight brushes made of brass wire.

DURATION OF THE WORK.—The preceding table shows that the process of cleaning of the "Taureau" occupied 109 hours and 9 minutes. A sailor, after having had two days' practice with the apparatus, can work five or six hours per diem under water. About 15 hours were lost in training men and getting the work well in hand, this sort of work being quite novel; but, without reckoning this, and calculating 15 hours as effective work, the time occupied represents 20 days' work for one diver. The process appeared to all the officers to be sufficiently expeditious for the object in view. In fact, the largest armour-plated vessels, such as the "Solferino," or the large English steamer, the "Himalaya," have a superficial area at bottom only twice that of the "Taureau." They could be completely cleansed every three or four months in about 220 hours by the employment of divers. If two men were employed, the largest vessels could be cleaned in 20 days. Moreover, if the practice of cleaning the bottoms every two months were adopted, the bottom would be much less foul, and the work would take less time, hence the limit of 20 days may be considered as the maximum for the largest vessels, if only two men were employed.

COST.—The cost of cleaning the "Taureau," performed by the crew, was for gratuities given to the men, a halfpenny per

minute for time passed under water, and for brushes and the iron steps or stages, about 450fr. (say 18*l.*) Now, a ship of the tonnage of the "Taureau," sent to dock, would, according to the official tariff, cost 2,000fr. (80*l.*) the first day, and 1,000fr. (40*l.*) the following days.

Now, even supposing the vessel were only one day in dock, which seems to me to be an extreme case, there would be considerable saving between the cost of 2,000fr. (80*l.*) and the cost of cleansing while at sea, viz., 450fr. (18*l.*).

We are not called upon to notice the diving dress and apparatus which Mr. S. Barnet exhibits in the British section, Class 50. It seems to be not fitted with any improvements that are not thoroughly known.

Apparatus and Processes used in Agricultural Works, and in Works for the Preparation of Food. —(Class 50.)—By Professor T. C. Archer.

Professor Archer on Agricultural Works, &c.

This class is one of several which serve to prove that the Imperial Commission has needlessly multiplied the divisions of the general arrangement, and have thereby led even their own officers into difficulty and confusion. For instance, the first section of the above heading specifies "Apparatus used in Agricultural Works." The same occurs in the description of Class 48, and under that class every noticeable object of this kind has been shown. Again, only one illustration of machinery or apparatus for the manufacture of artificial manures appears in the whole exhibition, and that is the ingenious machine shown by T. Carr of Bristol, called a patent disintegrator, for breaking up coprolites. This, however, is shown in Class 51 (4), and will doubtless receive notice from the reporter of that class. The only exhibitors of machinery for making bricks and draining tiles, which are, curiously enough, comprised in this class, are to be found in the British section, where will be found in active operation several excellent machines by H. Clayton and Co., of Harrow-road, London, W. (10), whose patent machine and pug-mill are capable of making 5,000 solid bricks or about 7,000 drain-tiles per day. Mr. John Whitehead shows a "two-cylinder machine," a most powerful and effective machine, which manufactures either solid or perforated and hollow bricks and drain-tiles. This is the same kind of machine, with some improvements, which was in the Exhibition of 1862 in London. Mr. Gregg's press is only a small-sized one; but he invites visitors to see one of full size, exhibited outside the Exposition, which is in full operation, making, it is said, from 35,000 to 40,000 common bricks per day. In these machines the principle is to force the clay out in a continuous length, of the requisite form, and cut it into bricks with wire cutters. Mr. Bawden's machine, however, which may be seen with the rest at work in the machinery gallery, presses the clay into moulds, six at a time; and, although slower in its operation, makes more perfect bricks. It is only applicable to solid bricks, of the ordinary size and shape. The engineer and machinist will fail to discover any novelty in the operations of these machines; but to the general public they afford much interest.

Brick-making machines.

Professor Archer on Agricultural Works, &c.

Dairy utensils and implements.

Of dairy utensils very few are shown. In the French section but one exhibitor appears, who shows cheap serviceable milk-pans and other vessels, in tinned iron (135).

Holland, so famous for its dairy management, has taken the best means of illustrating this industry by building a model farmhouse with accommodation for a dozen cows, and a dairy fitted with every necessary appliance for making butter and cheese. It will be found in the park, between the avenues Brabant and Zealand; and, as it is a fac-simile in every respect of an ordinary Dutch farmstead, it will be seen with much interest.

Belgium has several exhibitors of churns (9, 22, 25, 28); Denmark one (1); and Italy one (29); but none of them possess any novelty of construction. They are exhibited, apparently, only for the purpose of showing the good workmanship of the exhibitors.

Atmospheric churn.

In the British section, besides one or two good churns (15 and 22), there is the newly introduced one of the Atmospheric Churn Company (Limited), which is entirely novel in principle, and is apparently as useful as it is new. It consists of a cylinder, with a tightly-fitted piston, the rod of which is hollow, and has an air-valve, by the operation of which, when the piston is moved up and down, the air is made to pass through the milk or cream, so as to keep it thoroughly agitated as if boiling, and the butter is thereby disengaged. It is said not only to act more easily and quickly than other churns, but also to separate the oleaginous particles from the milk much more completely. In the same section is a good display of the well-known manufactures of Mr. Duffield (13), who has long been famous for his boxwood butter-moulds, butter-spatulas, and numerous other useful articles of a similar kind.

Several other countries exhibit dairy utensils, but none of them presenting any special interest.

Implements &c., used in the preparation of corn &c., for the subsequent operations of grinding, crushing, &c.

In the French annexe will be found a number of well-made machines for the preparation of corn by sifting, and for the husking of rice, &c.; but they, generally speaking, are of the most common kinds, on the principle of vibrating or rotating sieves of the required degrees of fineness. Several also are shown by the Austrians, amongst which one by Charles Buhurger, of Szegedin, in Hungary, is the best;

but it contains no less than twenty-two sieves, and appears to be unnecessarily complicated, and consequently expensive. A very clever little hand-machine, France (28), is shown by J. C. Andre, of Nismes, for the use of confectioners, liqueur-makers, and others, who require to husk almonds. The kernels are supplied through a hopper, and are made to pass through rollers sufficiently wide apart to prevent them from being crushed. These rollers are covered with a web of hair-cloth, having a short pile of india-rubber strips woven in. This pile is not more than the sixteenth of an inch high, and is strong enough to rub off the external skin of the almonds completely. Doubtless, this machine might be applied to many other similar purposes; indeed, there is a modification of it shown in the French annexe by Messrs. J. P. Fili et E. Barrabe, for husking and cleaning all kinds of seeds, which, from the samples shown with the machine, appears to work very satisfactorily. In the United States section, a smutter and corn separator (15) is shown of only moderately good construction; and in the British section, J. Baker, of Wisbeach, has a corn-dresser, which is well made, though without any novelty of construction.

Husking machines.

Mills for grinding corn, &c., and millers' accessories.

Of portable corn-mills there is a remarkably good display in the French department. These will be found in the annexe. France has always held a very high position in this particular branch of mechanical engineering, and on this occasion, although no novelties have been produced, French exhibitors have given abundant proofs of the excellence to which they have brought this branch of their manufactures. The mill work of M. C. Touaillon, although entered as *hors de concour*, is particularly good and of a very miscellaneous character, including not only mills and millers' accessories for wheat grinding, but also starch machines and macaroni presses. The grinding mill of M. H. Cabanes (98), with its arrangements for ventilating and cooling the grain and flour, is apparently very good; but, like almost all the machines in this class, nothing but seeing them in actual use will give a fair idea of their real merits. Very excellent mustard-mills are shown (140, 144, 147); in the last, steam power is required, and the grinding is done by cylindrical stones revolving on a fixed surface, with scrapers to carry the ground material forward. In the United States section two good hand-mills, one for corn (1), and one for corn or spice (9), are shown, and in the agriculture annexe of Great Britain the mills and mill machinery of J. Lucas (20),

Corn-mills.

Mustard-mills.

PROFESSOR ARCHER ON AGRICULTURAL WORKS, &c.

Millstones.

Messrs. Riches and Watts (25), J. Pye, of Lincoln (31), and J. Whitmee and Co. (35), will be found worth notice. The French and Austrian millstones shown are of great excellence, and it is difficult to say which are the best. It must be borne in mind that these stones are all built up of pieces of the hard chert rock known as "burr stones," and that, consequently, the construction of a complete grinding stone of large dimensions out of such material is a matter involving great skill and careful workmanship. Those in the French section shown in the park are numbered from 151 to 159, and the Austrian specimens are Nos. 11, 12, 21, and 25. Those shown by other countries are not remarkable in any respect. A very curious kind of millstone is shown in the French annexe, by Mr. J. Aubin (151). Between the grinding ridges are deep channels covered with wire gauze, so placed that each groove acts as a little sieve; whether this answers or not it is impossible to say from a mere inspection of the arrangement. Near to this is shown (107) a most ingenious plan for dressing millstones; the apparatus is regulated by a scale, and a handle puts in motion a disc of metal with a black diamond fixed in its outer edge so as to cut the grooves in succession, with great regularity and nicety. The general character of the millwork in this class is neatness and compactness of construction, specially fitting it for farmers and colonists.

Starch-cleaner.

Of machines connected with the preparation of the food starches the only noticeable one is that exhibited by C. Groult, of Paris (134), for the cleansing of tapioca, which is, however, little more than a sloping sieve with a vibrating motion. The sieve is in the form of a spout or shoot, broadest at the upper end, where it is fed from the hopper. The perforated part consist of plates of metal, each with holes of a different size, increasing downwards; a box is placed under each plate so as to catch what passes through, and the tapioca is thus sorted into different sizes. Its utility for this special purpose is not very great, but it is also recommended for separating various accidental mixtures of grain and seeds, the perforated plates being easily removed and replaced with others of the required sizes.

Seive-cloths.

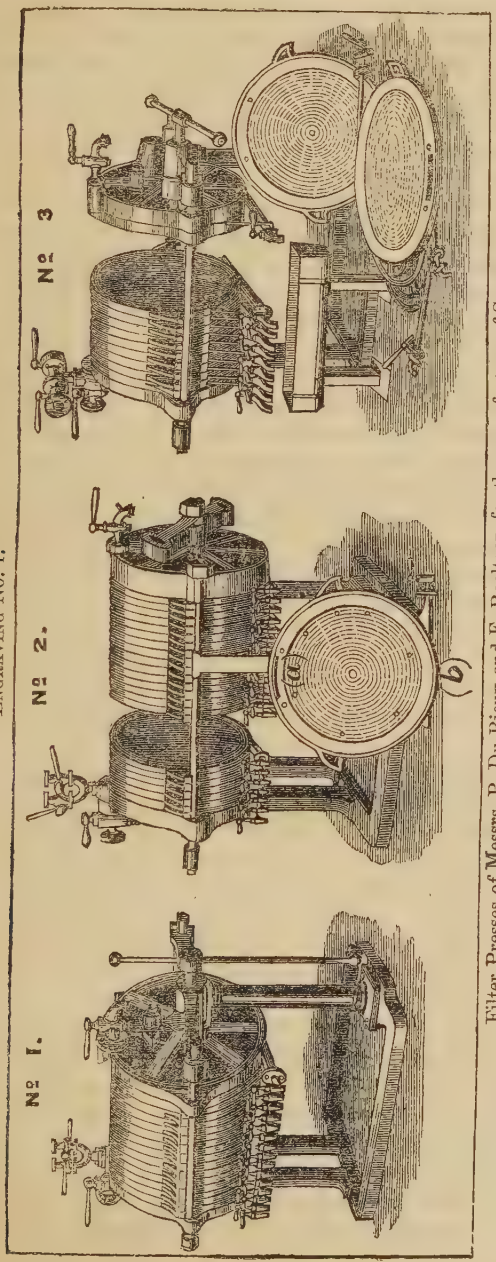
Several exhibitors show excellent specimens of bolting-cloths for flour-mills and sieve-cloths for general purposes. The silk gauzes for bolting-cloths shown by the French exhibitors are unrivalled; but not far behind them are those of Austria, whilst the exhibitors of that country have surpassed all others in the cheapness of the horsehair sieve-cloths they have produced.

Filter-cloths, pulp-bags, and horsehair pressing-cloths

(*étreindelles*) for oil, &c., although naturally belonging to this section, have been, by the classification of the Imperial Commission, placed in Class 51, with chemical and pharmaceutical apparatus. Of oil and wine presses there is a large display in the French annexe, and a few in the Italian section of the machinery gallery; but, although in many cases bearing the labels for Class 50, they especially belong to Class 74; none of them present any novelty of construction, although much improvementin manufacture and increased power are shown in several of the French presses.

PROFESSOR ARCHER ON AGRICULTURAL WORKS, &c.

Wine and oil presses.



ENGRAVING No. 1.

Filter Presses of Messrs. P. Du Rieux and E. Roeltger, for the manufacture of Sugar.

Filters.

The filter-presses of Messrs. P. Du Rieux and Ed. Roeltger are well worthy of notice; they are chiefly adapted for sugar manufactories and refineries, and for such other works in which thick fluids

PROFESSOR ARCHER ON AGRICULTURAL WORKS, &c.

have to be removed from solid materials. The principle is not new, being in operation in almost every stearine manufactory; but the compactness of arrangement in these presses, and their consequent adaptation to a variety of purposes, is worth the attention of manufacturers; they can be used by the simple pressure of a column of the liquid, or, better, by a pneumatic arrangement for withdrawing the air from the cylinder formed by the series of flat double filters. The character of this apparatus can only be properly understood by reference to the Engraving No. 1.

Fig. 1 shows the apparatus closed. Fig. 2 one of the filters removed and shown in front: *a* is the opening in the metal frame for exhausting the air, *b* is the tap for withdrawing the filtered liquid. Fig. 3 shows the apparatus partly dismounted, and the position of the trough for catching the liquid material.

Brewing apparatus.

As might be expected, the apparatus connected with breweries is not largely exhibited, the great dimensions of such objects precluding the possibility of giving them room. A large iron mash-tun with stirring apparatus, very complete, is, however, shown in the Prussian machinery department (3), Münnch and Co., with several other brewing utensils fit only for small breweries. In the French section some small utensils are also shown, as well as drawings of large breweries (149), and a method of preserving hops by placing them in iron vessels, hermetically sealed, and substituting carbonic acid gas for the atmospheric air. Filters for beer are shown by Bavaria. In connection with brewing appatus, W. Robinson's machine for cleaning barrels (26, British) is perhaps the most useful thing shown. Several plans are shown for protecting beer and other liquids on draught from oxygenation, chiefly by forcing in carbonic acid gas; but none appear practical founded on this principle. S. Bourne (6, British) proceeds on the principle of excluding air altogether by a flexible diaphragm, which, taking the shape of half the interior of the vessel, is acted upon by the external air, and keeps a constant and equal pressure upon the contained liquid without atmospheric contact. The difficulty which at first stood in the way of this plan was the smell and taste of india-rubber, which is the only known material capable of adaptation to this invention; but they profess to have overcome this by combining animal charcoal with the caoutchouc, which is said to render it tasteless and absolutely free from smell. They adapt this invention to earthen jars and glass vessels, as well as barrels of wood.

A very useful little apparatus for tilting casks without disturbing their contents is shown in the French section

(13), under the name of Cric-Beziat. It requires a staple, or some other point of attachment in the roof of the vault or on the wall, and, as it is a lever worked on a strap, it can be made to tilt a cask without the slighest disturbance. For mixing fluids in casks M. J. C. Bignon (12), France, shows a useful and ingenious contrivance, called a "whip" (*fouet*). It consists of two flat metal blades, formed like scythes, but with holes through the blades to produce greater disturbance of the fluid. By a simple contrivance one of these blades can be rendered moveable or fixed at pleasure, so that by bringing both together, as in Engraving No. 2, fig. 1, they can be introduced into the bung of the cask, after which they can be opened and fixed, as in fig. 2. As the instrument is screwed into the bunghole of the cask by means of the screw (*a*), the blades pass through the screw, and form a handle (*b*), consisting of two pieces (*b b*), which are fixed by the slide ring (*c*) when ready for use, as in fig. 2: they are seen disconnected in fig. 1. By means of the handle (*b*), the expanded blades can be turned round rapidly, and form an excellent stirrer of any fluids contained in the cask.

Engraving No. 2.

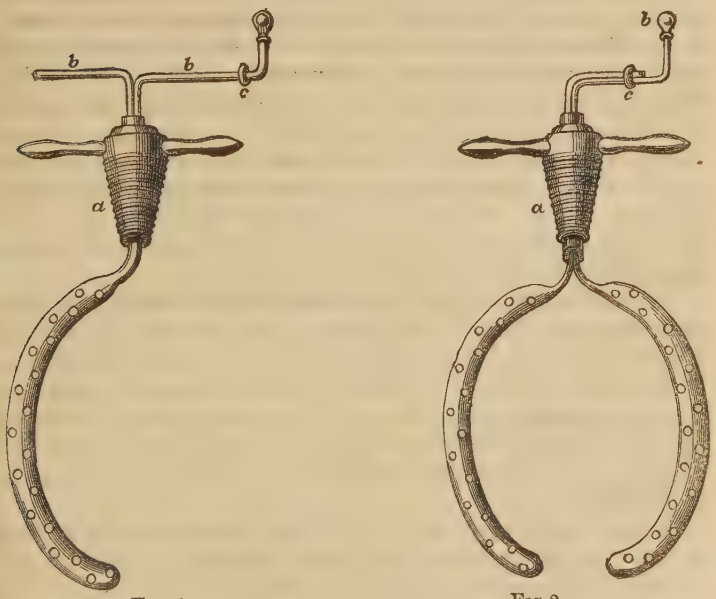


Fig. 1. Fig. 2.

J. C. Bignon's "Whip" for mixing fluids in casks.

Many ingenious contrivances for corking bottles are placed in the French annexe amongst the exhibits of

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Class 50, but they belong especially to Class 60. Taps are also shown in this class, but they present no novelty worth special notice.

Several exhibitors show articles connected with the manufacture and storage of wine, but the only one of any practical value is the now well-known metal wine-bin shown as a British invention by Messrs. Farrow and Jackson (14).

Distillery apparatus.

Distilling apparatus, like most of the important subjects of this class, is also specially arranged under Class 74. The reporter presumes that, as that class has special reference to purely agricultural structures and appliances, it is intended to bring under it only such distilleries, sugar-mills, breweries, &c. as are likely to be established on a small scale in large farming establishments, although that opinion is somewhat shaken by the fact that sugar refineries are also included. These difficulties occur at every point in the investigation of this class, and it seems they have influenced the committee of the class as well as the exhibitors, for in the revised edition of the Official Catalogue the explanatory notice which is found so useful at the commencement of many other divisions is wanting here. Most of the specimens of stills shown are small, and only fitted for private establishments on a small scale, but for such purposes those shown in the French department are all of them well adapted, and both in construction and workmanship show great skill. The continuous system of Egrot, which received the medal in 1862, still appears the best both for compactness, simplicity, and the facilities it offers for being put up or taken to pieces, and, consequently, of being thoroughly and easily cleansed. The stills of H. Champonnois (129) and the excellent condenser of H. Moquet (130) are well worth special notice.

In the Belgian section, Van Gindertaelen and Co. exhibit very excellent distilling apparatus, made on the system of Haeck, which resembles that of Egrot in being continuous in operation. In this apparatus there is especial attention given to arrangements for easily cleaning every internal part, and thereby avoiding injury to the flavour and quality of the spirit from the formation of verdigris or other impurities.

A small and ingenious distilling apparatus is also shown in the Austrian section, by Moriz Häesek (8), but no description of its operation could be obtained.

Automatic controllers for distilleries.

In the International Exhibition of 1862 there was shown, for the first time, a controlling apparatus for distilleries. It was invented by Theodor Steinberg, of Osseenovy-Koon, and was exhibited by the Russian Government. It was

stated that the employment of this apparatus had effected a great saving to that Government, as comparatively few officers were required to check the distillers, and the great evil of bribery was nearly cured. In the present exhibition will be found several automatic "controllers," the most perfect of which is in the Austrian section (Josef Körösi, 14); by this an exact record is taken of the quantity which passes from the still, and a small quantity of spirit is abstracted at regular intervals, and the strength recorded by a self-recording alcoholmeter. In order to obtain the quantity, a rotating disc raises a small metal bar for each vessel of a certain measure, which is filled and emptied, the latter part of the process taking place instantly when the measure is filled. The number of bars lifted thus shows the number of litres, or other measures, which have been filled. The machine exhibited is capable of measuring the quantity and strength of forty litres per hour, and it is stated that more than 4,000 of them are in operation in the distilleries of Austria and Russia. Another is shown by J. P. A. Vollmar, from the grand duchy of Hesse.

M. Moullier-Bertrand (France, 157) shows a very ingenious apparatus for separating spirits of different densities as they arise during the process of distillation. The arrangement is very simple: a channel of metal receives the spirit from a small reservoir in which it collects from the condenser; from this it falls by a double spout, suspended like a balance, into a receiver, but the spout is so nicely balanced that the slightest touch reverses it, and throws the current into another receiver; a long and slender lever is so placed that one end acts upon this double spout, whilst the other is moved by a rise or fall of the bulb of a hydrometer which floats in the spirit, care being taken to prevent it being subject to a current, or any sudden increase of the contents of the reservoir. It appears to be rather better adapted for use in the laboratory than for the requirements of a large distillery.

Sugar machinery.

The machinery and apparatus for sugar making and refining are shown somewhat extensively, especially by the eminent firm, J. F. Cail and Co., of Paris, who exhibit entire suites of machinery for cane and for beetroot manufactories, and for a refinery; but, so far from presenting any novelty, they are rather behind the manufacturers of Great Britain in this class of work. Some of the machines in the French annexe for preparing beetroots by rasping and pulping are well made. One manufacturer in France (21) and another in Austria (16) show sugar-moulds made of hard paper (*carton durà*), which seem to be serviceable, cheap,

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The "Osmogene."

and, of course, very light to handle. The only remarkable novelty in sugar apparatus is a dialyser shown in the French section by Messrs. Carmichael and Co., who call it an "Osmogene." It is a square wooden cistern, divided internally by fifty to sixty frames, on which are stretched sheets of vegetable parchment, about 3 ft. square, placed at short distances apart, with a proper arrangement of pipes and taps for supplying and removing the results. Warm water and molasses, or syrup, are let in alternately between the frames, and the whole kept at a temperature of from 70 to 80 cent., when a complete circulation ensues, and the pure sugar passes to the water, which thus depurates it without the aid of animal charcoal or other materials. It is said to answer well for beetroot syrups, and to be extensively employed for that purpose at the sugar works at Tour-du-Pui (Isère).

Of the apparatus used to make sugar into various forms of confectionery there are some excellent examples, foremost amongst which are the extremely well-made comfit-pans and sugar-grinding mills of L. Collier (11, British), who, besides, has machines of better workmanship than any other in the class for moulding drops, jujubes, and other sweets in great variety. Comfit-pans are also exhibited by France (50) and Austria (38), and a clever machine for making sugar drops is exhibited in the Italian section (30). Letang and Son (16 and 20) and Jacquin and Son (52, France) exhibit a very great variety of tin, pewter, and copper shapes for the use of confectioners.

Machineries for bakeries.

The baking apparatus shown consists chiefly of several mechanical kneading-troughs, the principle in all being nearly the same, in other words, the helical blades invented by Rolland, and afterwards improved by Lesobre and Boland. They are shown in the French annexe, in the Italian machinery section, United States section, and an excellent one by Perkins in the British testing-house; but all the best varieties are shown in actual use in the French bakery in the park (*Manutention Civile et Militaire*), where all the operations of baking can be seen daily on a very large scale. No important change appears to have been made during the last 10 years in kneading, nor does there appear to be room for much, as it will be seen that the work done is most effectual, and the bread produced is such as it would be most desirable to have introduced into Britain. The cleanliness of all the arrangements connected with the French mechanical bakeries, and their superior economy to the dirty and slovenly hand methods, ought to ensure their general employment; but in our prejudiced country, progress is very slow. The French system of loaves of small

diameter, to ensure thorough baking, necessitates continuous ovens; and there are several shown besides those in operation. They are either upon the system of Rolland—that is, a rotating metallic floor, upon which the loaves move round and are brought regularly into contact with the more heated parts of the oven—or the continuous travelling system of Vicars, in which the loaves travel onward, and when baked are lifted into an upper chamber, whence they are removed. The ovens shown in the French annexe are all of small size. Some very excellent military cooking-stoves are exhibited, but they belong to Class 38.

The Austrian Commission exhibits a very useful and ingenious machine, which is used in the Imperial bakeries of that country. It is for the purpose of dividing the dough into equal portions for military or naval biscuits, and registering the quantity which passes through the machine.

Italy shows tin plates perforated for macaroni and vermicelli machines, but no complete machines for that manufacture; indeed, the only one shown is in the French annexe by Gros (142), a well-made and powerful machine, which has been bought by an Italian manufacturer.

Cooking apparatus.

The steam cooking apparatus of M. Egrot in the French machinery department is extremely simple and well constructed, and if effective, as stated in his brochure, must be a great advance upon the ordinary arrangements of large kitchens, all the operations being effected by steam, without the direct application of fire.

The apparatus shown by the British Admiralty for cooking purposes is the most complete of any exhibited, and excited much interest.

M. J. Mareschal, of Paris (107), Widow Letang (20, France), and especially Mr. Kent, of London (19), exhibit a great variety of articles of domestic utility connected with the preparation of food, such as mincing-machines, sausage-fillers, egg-whips, pastry-moulds, ice-machines, refrigerators, wine-coolers, bread-cutters, apple and potato peelers and mashers, &c., which, although well-known articles of trade, are objects of interest in an exhibition which professes to comprise everything. Norway and Sweden show good, useful kitchen ranges with cooking apparatus, in which economy of fuel and compactness of arrangement have been carefully studied. In the French annexe are exhibited a few plans and models of stoves for drying corn and fuel, but they are of no special interest.

Ice making machines.

No noteworthy ice-making machines are exhibited but those of M. Carre and M. E. E. Carre, which are now well known, having been exhibited in 1862.

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Gazogenes.

The apparatus for aërated drinks and gazogenes is shown extensively, whole cases being filled in the French department with syphons and gazogenes in every variety of pattern, but with nothing special to distinguish them from the common shop wares. There are, however, in the annexe (French) some excellent examples of the larger class of machines for producing aërated drinks. That of M. Berjot, jeune, of Caen, especially, is extremely well made; so also is that of Griffier (80), Ozouff (79), and Vielcuzal (83). M. Griffier's machine is stated to be capable of filling from 12,000 to 15,000 quart syphons per day. None are, however, better than the apparatus shown in the British department by Messrs. Fleet and Co. (16), which combines every arrangement for bottling soda-water, &c. Of coffee-mills and cafetières there is a very large number, but they only serve to prove to how great an extent this Exhibition has been converted into a bazaar.

Chocolate machinery.

The chocolate machinery, on the other hand, is worthy of notice. Those made by G. Hermann (45), Bouvin (47), Debaliste (46), and Devinck (44). The machine shown in operation by the last exhibitor is remarkable for its ingenuity and the perfect manner in which it accomplishes its operations. These consist in folding the cakes of chocolate in sheets of paper, and sealing them at the same time, with the greatest precision and neatness. The mills employed have either cylindrical stones working horizontally, or they have circular stones working on edge or on their faces. The last answer best for the fine kinds of chocolate, the mixture for which liquefies during the process of grinding from the heat caused by the friction of the stones. In this state it runs easily into moulds, and sets as soon as cold.

In the United States of America machinery section is shown a very compact, powerful, and effective tobacco cutter, by H. Tilden, of Boston. Washing machines are principally exhibited by Bradford and Co., of London (7), Briggs, of Leeds (7A); also by one or two American exhibitors, but nothing novel, or worth special mention. All of them have been long before the public, and are largely advertised.

Water filters.

Only two filters are worth noticing—that shown by the Silicated Carbon Filter Company, used by the British Admiralty, and an improved cheap filter, exhibited by W. Matchwick (21A), made with two large-sized garden pots, one being the filter, the other the receiver of the filtered water. The hole in the bottom of one of the pots is plugged with a piece of sponge. On this piece of sponge (inside the pot) is placed a small cap or wire grating, then a

layer of animal charcoal 2½ inches thick, then a layer of clean sand 3 inches deep, and on that a layer of coarse gravel. To prevent the filtering bed being disturbed when the water to be filtered is poured in, a perforated top is placed on the gravel, on which the water is poured and through which it passes to the filtering bed. A wooden cover then keeps out dust and dirt. The second pot, or receiver, has a cover with a circular hole, and on this cover the filter is placed. The hole in the second pot is stopped with cement, and a common wooden tap inserted for draining off the filtered water. As garden pots are to a certain extent porous, both pots are coated inside with pitch ; but it would be better if melted paraffin were used instead, as the water for some little time after the filter is first set up has a slightly pitchy flavour.

The merits of this filter are as follow :—Extreme cheapness (costing only about 4*s.*), great simplicity of construction (anyone could set it up), and excellence of operation, impure water passed through it being as much improved in quality as if it had passed through one of the more expensive filters.

Silkworm nurseries.

Of silkworm nurseries, the most important shown are in the Italian, Portuguese, and French departments ; but they consist almost wholly of the ordinary cheap cellular arrangement made by crossing slips of thin wood set on edge, adopted in all silk-growing countries. The Portuguese exhibitors, three in number (1, 2, and 3), have shown most ingenuity in arranging the cells and stands for holding them, and the feeding trays, so as to economize space and material.

The reporter is quite conscious that this account of Class 50 is far from satisfactory ; but when it is borne in mind that it consists of a most miscellaneous series of articles, many of which should have been in other classes, and, still more, ought never to have been exhibited, except in the sale rooms of their owners, it is hoped that the attempt to set forth the little interest it may contain has not been absolutely unsuccessful.

Notes upon the Chemical Processes in Class 51. By Dr. Lyon Playfair, C.B., F.R.S.

Dr. Playfair on Chemical Processes.

I do not at all profess to give a general report upon Class 51. The objects comprised in it were of the most multifarious and incongruous description, having really little bearing on chemistry. Apparatus and machines used in large manufacturing operations, requiring much elaborate description with numerous drawings to render them interesting or intelligible, were classified with omelette whippers and vessels for making American drinks and other unlike objects.

Objects exhibited.

I confine myself therefore to noting in the first place those novelties in chemical processes which deserve to attract attention, and then such novelties in apparatus as can be described without elaborate mechanical drawings.

2. To the operations of bleaching calico and flax a considerable space was allotted in the French department. The exhibitors Tessié du Motay et Marechal from Metz (No. 31) showed a new method of bleaching flax by manganate of soda. The first operation consists in preparing this salt from the refuse of the chlorine manufacture. This refuse consists of manganese chloride which is precipitated with slacked lime, the resulting oxide of manganese being roasted in a current of air along with caustic soda. After this roasting, a mixture is obtained in which there is 66 per cent. of sodic manganate, besides sodic carbonate. To remove the latter the whole is dissolved in water, and a solution of sulphate of magnesia is added. Carbonate of magnesia and sodic sulphate are formed. The green sodic manganate is diluted with water, and is thus decomposed into manganic oxide and red sodic permanganate. The two precipitates are preserved; the magnesia carbonate being dissolved in hydrochloric acid as a substitute for the magnesia sulphate formerly used, and the manganic oxide being roasted with soda as before. The clear red solution of sodic permanganate, mixed with sodic sulphate, is now made of such strength that it contains 3 per cent. of sodic permanganate.

Bleaching processes of Tessié du Motay et Marechal.

The linen or yarn to be bleached is now rinsed in this solution for a quarter of an hour, and is passed through a squeezer to express the solution. It is then transferred to a vat containing a solution of sulphurous acid. The object of this is to remove any black manganic oxide deposited in the pores of the tissue during the bleaching. Part of the

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oxygen in the black oxide is transferred to the sulphurous acid converting it into sulphuric acid, which dissolves out the manganous oxide formed by the reduction. After this has been effected the yarn or linen is put into the washing wheel and the whole process is repeated, commencing from the first bath containing the 3 per cent. of sodic permanganate. After a course of three such treatments yarn was well bleached before the jury, and without any appreciable deterioration of the strength of the fibre.

The chief merit of this plan consists in the rapidity with which flax and its products are bleached. The principle of bleaching is the same as that employed in the bleaching of calico, viz., to burn the colouring matter by oxygen. In the latter case this is done by means of chlorine and water, the oxygen of the water being the whitening agent. The permanganate of soda furnishes oxygen directly and apparently with efficiency. But no facts were laid before the jury to show the economical value of a process which is ingenious in overcoming various difficulties that naturally arise in it.

Bleaching process of Jarossan and Bastaert.

3. Another method of bleaching tissues, of calico or of flax and hemp, was exhibited by Jarosson and Bastaert, of Lille. The fibres of cotton tissues contain a small portion of resinous matter, and some fatty matters insoluble in water; these must be rendered soluble and be removed before the tissues can be bleached. In the common method of doing this very large boilers or becks are used in which the calico is successively boiled for many hours, first with lime and then with carbonate of soda. In these operations there is a large expenditure of fuel, of time, which is a valuable condition in manufacturing operations, and of lime and alkali. The object of the exhibitors is to economize all these by a change in the apparatus and in the mode of applying the alkaline salt. In the old method each boiling requires from five to eight hours, and an expenditure of from 6 to 8 per cent. of sodic carbonate for the yarns or tissues bleached; while the exhibitors claim to effect the same result with 2 or 3 per cent. of the soda salt for fine numbers of yarn, and 3 and 4 per cent. for the coarser kinds. The apparatus cleanses 300 kilogrammes of calico in an hour, or 2,500 kilogrammes in a day. On the old method four becks would have been required for this work, and the amount of steam would have been four times as great. The nature of the apparatus is shown in the following drawing. The material to be bleached being hung methodically as represented, is dipped into a cold bath of carbonate of soda, then transferred either by the movable

chariot shown in Fig. I., or by the crane in Fig. II. to a steam chamber, where it is exposed for an hour to steam, the waste steam of the chamber passing into a washing bath, which is to rinse the material. All the three vessels are of equal dimensions, the vapour bath being of iron, the other two becks of wood. The subsequent bleaching with chloride of lime is carried out by similar vessels, but it is stated that from the more perfect removal of resinous matter and fats by this method, the amount of bleaching material is economized, and the strength of the bath is weaker.

The exhibitors state that this apparatus is equally applicable to flax and hemp, which, however, from having more resinous matter than cotton require a larger proportion of the chemical agents.

The cost of fitting up an establishment on this plan to bleach from 2,000 to 3,000 kilos. of tissues daily is, including desiccators and other adjuncts, about 11,000 francs.

Lemoine's decortication of grains.

4. Lemoine, of 34, Rue St. Paul, Paris, exhibited various pharmaceutical products, among which were some bottles not likely to attract much attention, although they contained specimens well worthy of consideration. Cereals yield, as is well known, our most nutritious meals, but the value of these varies according as there is more or less of the outer parts of the grain left in the meal. The finest flour is far from being the most nutritive. Cereal grains consist of the true seed and the coating called *pericarpium*. The seed containing the embryo at its base is surrounded with food abounding in flesh formers. The pericarp or covering to the seed is made up of three layers, the outer one consisting of a skin of woody matter, being of scarcely any nutritive value, while the middle layer, or epicarpium, is formed of two series of yellow-coloured cells, and the interior of cells less coloured. In grinding corn in the usual way these layers are removed as bran, and much nutritive matter is lost. Thus flour contains about 13 per cent. of flesh formers, and bran 16 per cent. Bran, again, contains three times as much fat and five times as much saline matter as the same weight of flour. To throw it away or give it to pigs is a loss to human beings. Various mechanical devices have been contrived to separate the outer woody husk from the grains without encroaching on the cellular mass beneath, and some of these have been more or less successful. Lemoine does by chemical means the same thing, and, so far as one can judge from mere hand specimens, apparently effectively. The grains are steeped for 20 to 35 minutes in a three-per-cent. solution of caustic

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soda at 60° Centigrade. By this means the outer or woody husk of the grain is so loosened that simple agitation in the bath effects its separation. For barley a bath of weak sulphuric acid is said to answer still better. The vitality of the seed remains uninjured, for barley so treated germinates in four days after this decortication. The ligneous husks being washed with water are stated to form a good material for the manufacture of paper. I was unable to ascertain that this process had yet been carried out on a large scale, but if the statements of the exhibitor are verified in practice he has undoubtedly solved an important problem.

Candle, sugar, and other machines.

5. I do not attempt to draw attention to the machines or models of machines for manufacturing candles, sugar, gutta percha, and the like, shown in Class 51, both because they cannot be described without drawings and because they failed to strike me as possessing much novelty when compared with like machines used in our own country. There was indeed an elegant application of electro-magnetism to obtaining a fixed temperature for superheated steam in the distillation of fatty substances. I must refer simply to the makers' name, Leroy et Durand, Paris, for it would be impossible in mere description without drawings to make it intelligible.

Prussian and Russian apparatus.

6. The exhibits in Class 51 in other countries besides France do not require special attention. Prussia exhibited much pharmaceutical apparatus of a cheap kind, the main object being compact construction and the economy of fuel. In Russia Professor Guedrello, of Moscow, exhibited well-constructed and cheap chemical apparatus.

England. Apparatus. Siemens.

7. Our English exhibits in Class LI. were few in number, and with some notable exceptions, were not marked in character. Siemens justly got the grand prize for his generators and furnaces, among the most important contributions to manufactures in modern times. They are too well known in this country to require description, but are likely to obtain a far more extensive development in industry than they have yet received.

Johnson and Matthey. Precious metals.

8. Johnson and Matthey received a gold medal and honoured themselves and the country by their magnificent display of precious metals, and of their mode of preparation. Since the Exhibition of 1862 they have perfected the autogenic process of soldering pieces of platinum together. Formerly they were soldered by gold, and this method is still pursued in France, but the exhibitors effect the junction by laying a platinum wire along the junction and bringing to bear upon this the powerful oxyhydrogen flame

which fuses the wire and the edges of the plates so as to make them into one piece of metal. In this way one foot of a tube can be joined in about five minutes. Two platinum stills were especially remarkable for their size and beauty, both having been made by the autogenic method. One of them was large enough to concentrate 8,000 kilos. (8 tons) of acid daily, and was worth 62,500 francs. The other was fitted for 5,000 kilos., and was worth 41,000 francs. They were made with descending necks; but there were other retorts with ascending necks which are found to economize the acid by allowing it to flow backwards while the water still escapes as vapour.

Stothert and Pitt. Tanning process.

9. Among the other medallists of the English part of the Exhibition were Stothert and Pitt, of Newark Foundry, Bath, who obtained a silver medal for expediting the process of tanning. This has often been attempted, but has generally failed. If Simon the tanner, of Joppa, were to come back to the world he would find leather tanned almost exactly in the same way that he followed. Any promising method of shortening the process deserves consideration and a fair trial. These exhibitors show a method not of their own invention, but that of Mr. Stephen F. Cox, of the Clift House, Tannery, Bristol. Former methods of expediting the process of tanning chiefly consisted in the use of more powerful tanning materials than bark, but these by acting too quickly closed up the pores of the hides, leaving the interior imperfectly tanned, and rendering the surface harsh and brittle. The usual plan of tanning is, after the removal of hair from the skins by means of lime and scraping, to put the skins in pits with spent tan, and then gradually into new pits with stronger tanning materials, as weak solutions are found best at the early stages of the operation. Forty-four weeks are spent in these operations in the usual way.

Mr. S. F. Cox's method.

Mr. Cox's improved process, as described by him, consists in so suspending hides in the interior of a rotating frame, drum or cylinder, as that they shall alternately roll or fold up, and again straighten whilst immersed in the tanning liquor; the action is very curious, and gives you the notion of a live struggling mass, like a net of worms or eels; the hides tumble over in an extraordinary manner, and the liquor exudes and is drawn in again. The cylinder revolves about once in a minute, and the operation of the motion shifts the hides from the concave to the convex form and back again, which produces an alternate opening and closing of the different pores of the skin, converting each of them into a species of pump, compressing it, and causing

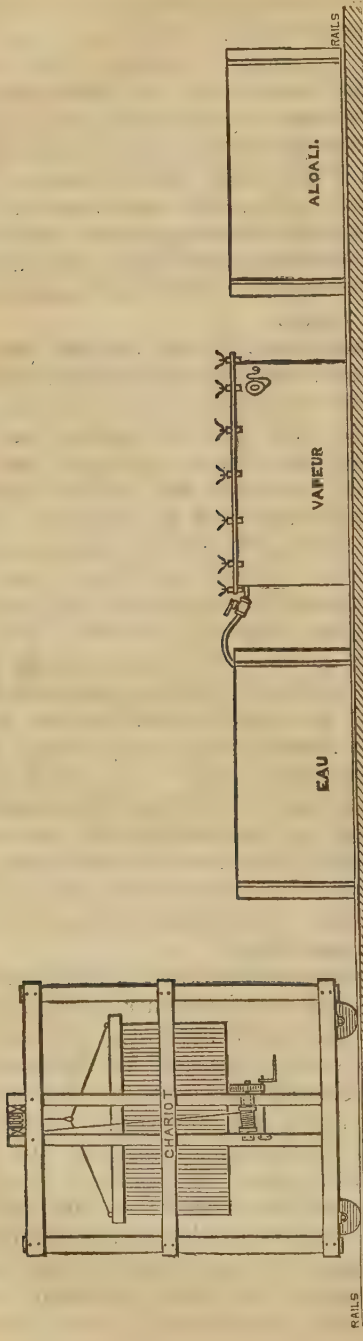


Fig. 1.

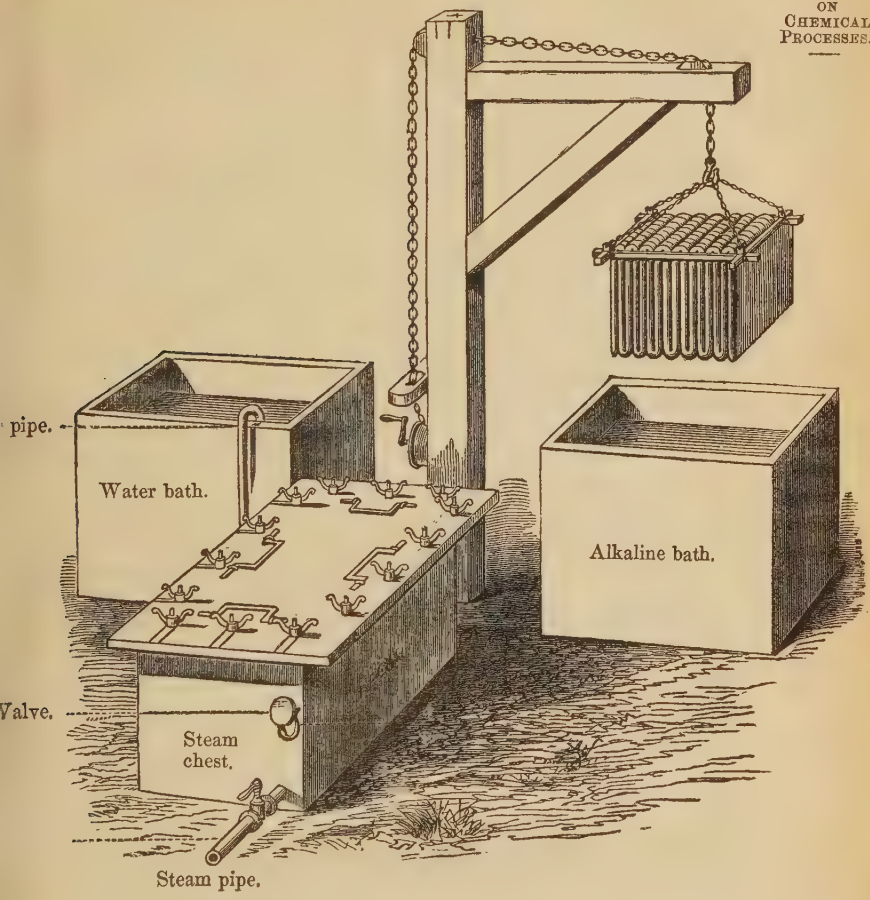
it to expel, opening it, and causing it to reimbibe, and these hides rolling over in this drum cleanse the surface of the pore, and bring fresh liquor in place of the exhausted portion.

Professor Allen Miller made an experiment to test the economy of this process, and found that with tanning liquors of equal strength operating for the same time, the new process absorbed nearly 36 per cent. of the tanning principle, while by the old process something over 4 per cent. only was absorbed, a result of more than seven times in favour of the new method. The inventor professes to shorten the time required for tanning hides from about ten months to nine weeks. The jury only saw the model of the apparatus, and could not actually test the results.

Conclusion.

10. It does not come within the object of my notes to refer to the excellent display of crucibles and retorts, by the Plumbago Crucible Company, and to those of Doulton and Watts, Cliff, and others, as I profess only to draw attention to novelties, and not to give an exhaustive report upon the class.

Fig. 2.



Report on Apparatus and Processes for Sewing and Making up Clothing.—(Class 57.)—By Captain Hichens, R.E.

The machines and apparatus exhibited in this class naturally divide themselves into three distinct groups.

First.—Sewing machines.

Second.—Machines employed in the manufacture of boots and shoes that do not come under the first head.

Third.—Machines and apparatus used in the manufacture of hats.

France is the only country in which all these groups are adequately represented. In England there is one exhibitor under each of the two last heads, and in no other country is there any exhibition at all, except under the first.

The sewing machine.

The Sewing Machine.—In making its awards to the manufacturers of sewing machines the points taken into consideration by the jury were—1. Simplicity of construction and directness of action. 2. Quality of work performed. 3. Uniformity of tension regulating the threads. 4. Regularity of feed apparatus. 5. Speed with minimum of driving force.

The sewing machine is an invention of comparatively recent date. In the Exhibition at London in 1851 only two very imperfect machines were exhibited. In 1855, at Paris, there were 14 varieties of sewing machines, some of which were so perfect that little or no material advance has since been made; and in 1862, in the London Exhibition, about 50 different arrangements of machines were shown.

America claims to have been the country in which the sewing machine was originally invented, and although it may perhaps be difficult to establish this priority of invention, it was certainly in America that the importance of the new machine was first recognized. According to the published statistics of that country there were in use, in 1862, 300,000 sewing machines, of which 75,000 were in private families.

"At the lowest computation one sewing machine is fully equal to five hand sewers. Taking the ordinary price of labour in America somewhat higher than in England, every machine will save $2, or about 8*s.* 6*d.* a day in wages alone, which amounts to an aggregate saving in America of 29,000,000*l.* per annum. According to the last census returns the capital invested in real and personal estate in this business in nine of the United States during the year 1860

CAPTAIN HICHENS ON APPARATUS FOR SEWING, &c.

was 289,656*l.*, employing 2,194 hands. The cost of labour was 221,520*l.*, and 116,330 machines were made, valued at 1,167,780*l.* In England the general introduction of sewing machines has been retarded by litigation and other causes; but within the last two years their use has been greatly extended. The best American machines, which were formerly excluded, have been largely imported since the expiration of Thomas's patent in 1846."*

In the "Exposition Universelle," now open in Paris, there are no less than 87 exhibitors of sewing machines. Their manufacture is now very general in European countries. France has 27 exhibitors, America 21, and England 12. Even so small a principality as Hesse has two exhibitors of sewing machines; the colony of Canada five.

Most of the French machines are from American patterns; but they are well made and often very tastefully finished, though their prices are generally considerably higher than those asked for by English manufacturers for similar articles. It is natural that on her own ground France should be the largest exhibitor; and, indeed, the space allotted to England has made it impossible for her to rival France in quantity, whatever she may do in quality. America has a very fine exhibition of sewing machines, in which branch of industry she is represented more fully than in any other class. Room has been found for them in a separate building in the park, where some locomotive engines and other railway apparatus are also placed.

The question of the effect of the introduction of the sewing-machine upon the social condition of needlewomen is very interesting; and it fortunately appears that not only have wages very generally risen, but that the number of hands employed is not diminished.

In the shoe trade, for example, the average wages of needlewomen before the introduction of the machine was from 8*s.* to 10*s.* a week, rarely 12*s.* The average earnings of women using the machine is about 14*s.*; some very good hands earn much more, 20*s.* or 24*s.*; and slow and inferior workers about 10*s.* Even those women who are found not able to work the machine to advantage are no losers by the increased prosperity of their sisters; they are employed as basters to put the work roughly together for the machinists, and are paid about 10*s.* a week.

Influence of the invention upon labour.

In the shirt trade the advantage to the needlewomen is

* This is an extract from "The Exhibited Machinery of 1862, by D. K. Clark, C.E.," to which very valuable work I have been largely indebted for the following sketch of the early inventions of sewing machines.

even more marked. I am informed by one very large wholesale manufacturer that the average rate of the earnings of the women he employs is as much as 20*s.* a week; that he is dissatisfied, and expresses dissatisfaction, if they earn much less; for the best piece-workers are the most advantageous to the manufacturers. The introduction of the sewing-machine has augmented the consumption of the manufactured article and increased the demand for sewing-women. Good seamstresses who prepare the work for the machines, and who formerly were paid about 12*s.* a week, now receive 15*s.* There is a very rude class of needle-women, very inferior hands, whose wages remain much as they were, but whose work is much lighter than it used to be. One very satisfactory aspect of the revolution wrought by the sewing-machine is that it has raised a demand for, and carried employment into, a new and more respectable class of women. A very considerable and good class of machine-workers, wives and mothers of families, have their own machines and do the work at their homes. There is, however, a great impediment to the general adoption of this arrangement in the very high price of a good sewing-machine. It is difficult to know to what this high price is due. In most trades competition tends to keep prices down to a fair standard, but in this particular industry the difference between the prime cost of the machine and its retail price is out of all proportion.

The American Government requires, for revenue purposes, returns of the money spent by manufacturers in wages of labour, the cost of material, &c. From these returns it is easy to make out a tolerably correct estimate of the average cost of a sewing-machine in America; this will be found to be about 3*l.* 10*s.* each. The cost of construction is certainly less in England than in America. I have now before me the price-lists of the manufacturers of almost every nation, and it is satisfactory to observe that the English prices are, on the whole, for the same class of machine, lower than those of other countries. Yet, even in England, a foot-working sewing-machine by one of the old-established houses costs 10*l.*, and this, it must be recollected, is the cheapest article offered by the manufacturer, so that the average retail price, which is the sum to be compared with the average cost price of 3*l.* 10*s.*, is enormously high. Some firms advertise machines at the low price of 7*l.*, but their construction is not quite so solid as might be wished. There can be little doubt that a decreased price would so augment the demand as to very materially benefit, not only the purchaser, but the producer.

CAPTAIN HICHENS ON APPARATUS FOR SEWING, &c.

History of invention.

In all the early attempts at constructing a sewing-machine the inventors tried to imitate the stitches made by hand, in which a single needle and thread is used, the needle having the eye at the opposite end to the point. The first modification which became necessary was a double-pointed needle with an eye in the centre, which enabled the machine to dispense with the continual inversion of the needle which obtains in hand sewing. The end of the thread was attached to this centre eye, and the needle was drawn through the cloth in alternate directions by grippers placed one on each side; the one above letting go its hold as soon as the needle was seized by the one below, and so on.

Heilman's embroidery machine, and that invented in 1755 by M. Weisenthal, a German, were on this principle. The stitch is the simple tacking or chain stitch.

The lock-stitch was first introduced, in 1835, by Mr. Walter Hunt, of New York. It was made by two continuous threads; but, as there was no apparatus for producing the necessary tension to tighten the stitches, it proved useless.

In 1841 Newton and Archibald invented a machine for tambouring the backs of gloves.

In 1842 Mr. John Greenough, of the United States of America, patented a machine for applying the shoemaker's stitch from a single thread by means of the double-pointed needle previously invented by Weisenthal.

In 1843 Mr. Bostwich patented a running-stitch machine. It had two toothed wheels, which, working together, crimped the material and pushed it against a stationary needle.

In 1844 Messrs. Fisher and Gibbons, of Nottingham, invented a machine for embroidering, which, by means of a needle and shuttle, formed the lock-stitch which was afterwards adopted by Messrs. Grover and Baker, who produced a practical sewing-machine.

Improvements in machines.

In 1846 Mr. Elias Howe patented in America the machine still known by his name; and this machine, with the exception of the feed motion, which was defective, as not being continuous, embodied all the principles of the best recent manufacturers. A straight needle carried by a slide has now generally been substituted for Mr. Howe's curved needle, and either the four-motion feed or the top feed for his baster-plate. The baster-plate was provided with sharp points sticking up on one edge, on which the cloth was adjusted and carried step by step through the machine. When the whole length was traversed, the baster-plate was taken out and the cloth re-adjusted. This arrangement was found inconvenient, and it wasted much time; but it

was not until 1849–50 that Mr. Wickershaw invented the first really practicable feed motion. He substituted for the baster-plate a wheel with a broad roughened edge protruding slightly above the surface of the work-table. The cloth was held down lightly on this surface by a pressure-plate. The wheel was given an intermittent rotatory motion, which carried on the cloth by friction with its roughened edge.

The next improvement in the feed motion was that called the four-motion feed, which consists of a flat serrated plate working through an opening in the table with a horizontal and vertical motion. The cloth is held down on the feeder by a presser, and is passed forward the length of the stitch by the forward movement of the feeder, which then, by its downward vertical motion, releases the fabric, and returns by its back horizontal motion to its original position, in readiness for the next stitch, to accomplish which it rises by its upward vertical motion into contact with the cloth, which is again carried forward the required distance.

This four-motion feed was first applied in England to the Grover and Baker machine. It is a most important improvement on the wheel feed, especially for all purposes of delicate or ornamental sewing, though the latter answers sufficiently well for heavy manufacturing purposes.

In the wheel feed the needle works on one side of the feeding surface, but in the four-motion feed the needle can operate in the centre line of that surface.

A further modification of this four-motion feed has since been made, in which the feeder operating from above does away with the necessity of the pressure foot, and is much preferable to the under feed, as being far less liable to injure the edges of the fabric submitted to its operation. The principle of its motion is the same as that of the four-motion feed.

The three principal stitches formed by the sewing-machine are—the lock-stitch, the double-chain-stitch, and the single loop, or chain-stitch.

Description of stitches, &c.

The *Lock Stitch* is formed by two threads, the upper one being carried by a needle with its eye near the point. This needle is driven through the fabric, carrying the thread with it. The thread passes through the eye, as in hand-sewing, not fastened to it, as in the early attempts at machine-sewing. The needle is then partially withdrawn, so as to form a loop of the thread underneath the fabric. Through this loop the under thread is passed by means either of a shuttle or a revolving hook, the former being most generally employed, though the latter works excellently for the lighter kinds of work. The stitch is formed as shown in fig. 1, page 138. When

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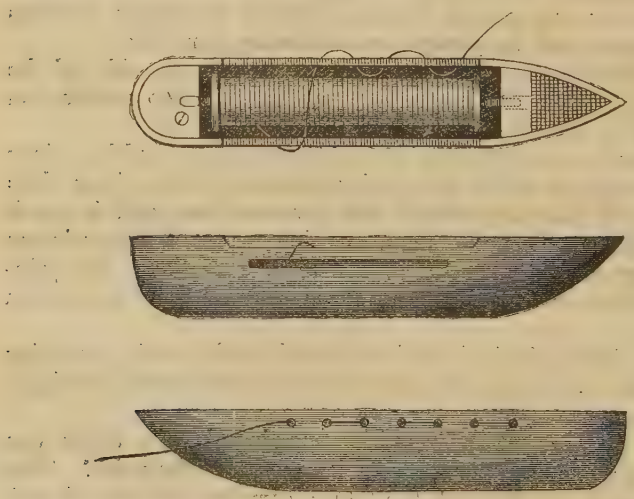
the under thread is thus either by shuttle or hook passed through the loop, the needle is wholly withdrawn, carrying up the loop thread, and with it the under thread, forming a lock in the centre of the fabric.

The tension necessary to tighten the stitch is obtained for the upper thread in various ways, either by applying friction direct to the thread itself or to the spool on which it is wound, or to a roller upon which the thread is passed on its passage from the spool to the eye of the needle. The most usual plan is by direct friction on the thread. This is effected by passing it between two discs of glass, or porcelain, or metal, which is adjusted to the required tightness by means of a screw; or by passing the thread through a succession of little holes in a thin metal plate, the friction being more or less according to the number of holes used; or by passing the thread round and round a metal bar, the number of turns regulating the friction. The latter is the simplest, and is most easily adjusted.

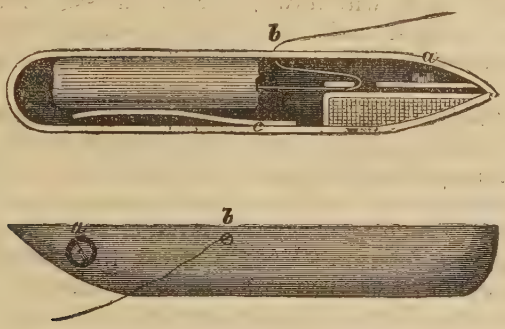
The under-thread tension is effected in the ordinary shuttle by passing it through holes in the side of the shuttle itself, as shown in the following diagrams:—



THE ORDINARY SHUTTLE.

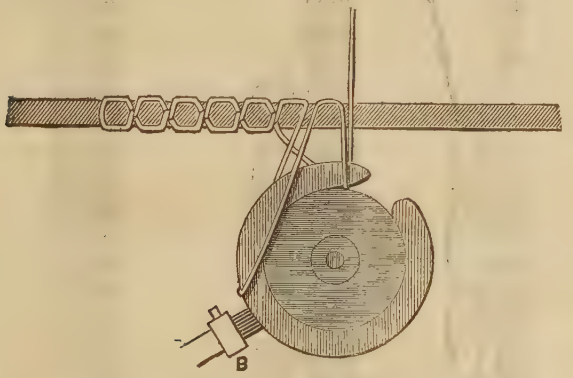
In the new shuttle devised to hold the cartouche of thread invented and patented by M. Marc Klotz, of Paris, the thread is passed between two thin metal plates (see diagram), adjusted by a screw (*a*), and is then carried through the hole (*b*). The advantages proposed to be gained by this cartouche are saving of time, as the thread is ready wound for use, and has not to be first taken off the reel and then re-wound on

the spool, as in the old shuttle; saving of time and trouble in the frictional apparatus of the shuttle. The cartouche is kept in its place by the spring (*c*).



NEW SHUTTLE INVENTED BY M. MARC KLOTZ.

In the rotating hook used by Messrs. Wheeler and Wilson, and since adopted by other manufacturers, the tendency of the spool to revolve in the direction of the hook gives the necessary friction and tension to the under-thread; it may be increased, if necessary, by the small brush (B) (see diagram). This tensional apparatus is defective, and the machine is only adapted for family use or very light manufacturing purposes.



MESSRS. WHEELER AND WILSON'S ROTATING-HOOK.

The Single-chain Stitch has the property of being very easily unravelled, which, for some sorts of work that may be required to be unpicked, is rather an advantage; but, of course, its use is not so general as that of the lock-stitch. The chain-stitch is chiefly used for sewing the soles of boots and shoes. In this heavy leather-work a waxed thread, stout and strong, is required; and leather-stitching machines are generally known as waxed-thread machines. The stitch is

formed in much the same manner as the crochet-stitch—a needle, with a hook at the point like the crochet-needle, is passed through the material, the thread placed in the hook; the hook is then withdrawn, carrying a loop of the thread through the fabric and through the previously formed loops, so as to interchain the several loops one with another (see fig. 2).

The Double-chain Stitch is formed with two threads. The upper thread is carried by an eye-pointed needle, which is passed through the fabric as in the lock-stitch machine, and also through a loop in the under thread, presented to it by the looper. The looper is of a curved form, having two eyes with a groove between them, in which the thread, supplied from a bobbin on the under side of the work-table, lies; and then an open loop is always supplied to the needle, which passes on the inside of the head of the looper. During the descent of the needle the looper is withdrawn in a circular direction, leaving a loop of its thread round the needle and the loop of the needle-thread, which is still tight against the needle. As the needle is withdrawn this loop, by the fric-

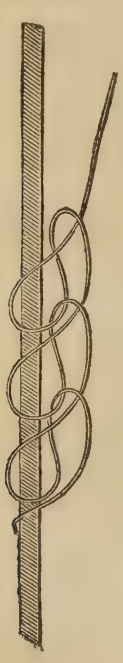


Fig. 1.
LOCK-STITCH.

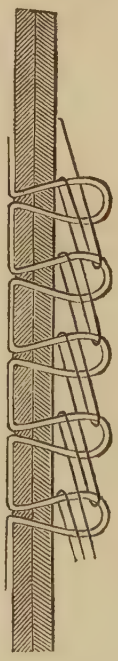


Fig. 2.
SINGLE-CHAIN STITCH.

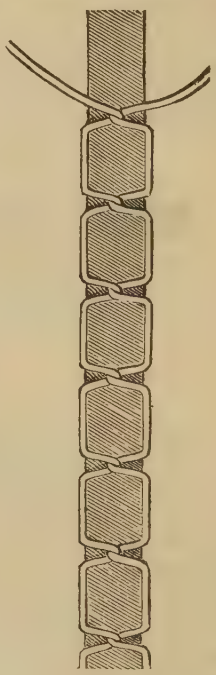


Fig. 3.
DOUBLE-CHAIN STITCH.

tion of the thread with the fabric, bellies out, and before the eye of the needle has ascended above the point of the looper the latter returns and passes a loop of the under-thread through this needle-loop. This stitch is used chiefly in embroidery (see fig. 3 on preceding page).

Having now described the stitches used in the sewing-machines, and the method of their formation, I should like to go on to explain the way in which the machine itself is constructed and worked; but it would be impossible to do this in the limits of a report such as the present, and this is, fortunately, the less necessary, as readers who may desire to study the machinery and construction for themselves have only to purchase a very admirable translation of Dr. Herzberg's "Sewing-Machine," by Mr. Upfield Green, published by Messrs. Spon and Company, London, and illustrated with very carefully executed working drawings.

Machines exhibited.

It now remains to point out the sewing-machines most worthy of attention in the present Exhibition—a task which, when done personally, as in the present instance, is not a little invidious. Unfortunately, the writer has neither the impersonality of a jury nor the anonymous position of a newspaper correspondent. He wishes, therefore, to be distinctly understood as not intending by any means to slight those manufacturers whom he does not mention, but that, there being so many admirable "exhibits" in this class, space would fail him if he attempted to point out or describe all that were worthy of inspection. To ascertain this the visitor to the Exhibition has the official catalogue as his guide; and it may safely be said that, if he has time, there is nothing put forward in this catalogue which does not deserve his attention.

France.

France.

The French sewing-machines are to be found at the end of the machinery gallery nearest to the section appropriated to Algeria—that is to say, the end furthest from Great Britain.

The two most considerable exhibitors in this section are Mr. C. R. Goodwin (29) and M. Callebant (30).

Mr. Goodwin's house, 29, is styled La Maison Americaine, and has been established in Paris eight years. He exhibits a greater variety of sewing-machines than any other establishment. The shuttle machine, the revolving-hook machine, both for forming the lock-stitch, may be found here. He also shows specimens of the double-chain-stitch machine, and the shoemaker's or wax-thread machine. All these machines are good of their kind. The cylinder or wax-thread machine may be seen in operation upon the soles of shoes. The price

Captain Hichens on Apparatus for Sewing, &c.

asked for an ordinary family lock-stitch machine is 350f.; but there is one specimen of a smaller foot-working machine at 250f.

M. Callebant, 30, confines himself entirely to the manufacture of the shuttle lock-stitch machine. His machines are admirable in construction and finish. Those machines with the top motion feed leave nothing to be desired, except a reduction in price; they cost 350f. B th these houses have received several medals for their sewing-machines.

MM. Brassard, Frères, 48, exhibit some very admirable cylinder machines for sewing the uppers of boots, &c.

M. Marc Klotz, 10, exhibits several machines with shuttles adapted to the reception of his thread cartouches already described, and of which a diagram is given above. His prices are low.

England.

England.

The English sewing-machines will be found in the machinery gallery, at the end nearest the French section, quite close to the great entrance. Among the English contributors Messrs. Thomas and Co. (10) are the most conspicuous. They have a very fine sail-sewing-machine, which is well worthy of inspection. All the machines exhibited by them are of excellent workmanship and very solid in construction. Their lock-stitch machines all work with the shuttle, and it is impossible to find anything better adapted to manufacturing purposes.

The order of merit of the British exhibitors, as decided by the international jury, is as follows:—1. The Wanzer Sewing-machine Company. 2. Messrs. Thomas and Co. 3. R. S. Simpson and Co. 4. R. B. Turner (not in the catalogue). 5. Messrs. Newton, Wilson, and Co. 6. Messrs. Pitt Brothers. 7. Mr. James M. Clements. The machines of all these manufacturers are well finished and carefully made. The prices are, as a rule, lower than those asked by the French exhibitors.

America.

America.

There is a very admirable display of American sewing-machines. They will be found in an annexe in the park, nearly opposite to the American refreshment-room.

The most remarkable machine in this Exhibition is a new button-hole machine exhibited by the Union Button-hole Company (4), which succeeds in sewing the button-hole all round in precisely the same manner as when done by hand. This machine is well worthy of inspection.

Messrs. Wheeler and Wilson, 3, show many very admirable machines, and have in no way lost their high position as

manufacturers of sewing-machines. Their lock-stitch machines work with the revolving hook instead of the shuttle; they are very beautifully finished, and work easily and with very little noise. No machines can be better adapted to family use.

Mr. Houghton, 21, exhibits a machine for sewing the soles of boots, &c.

Mr. Crosby, of Boston, 22, has a cylinder machine for sewing the upper leathers of boots and shoes.

The sewing-machine may almost be regarded as an American specialty, and the number and beauty of the machines now exhibited do full justice to the manufacturers of that country.

Prussia.

Prussia.

Messrs. Pollack, Schmidt, and Co. (not in the catalogue) exhibit a number of machines forming the lock-stitch, some with the shuttle and others on the Wheeler and Wilson principle, with the rotating hook. The machines are good and well finished—some of them, mounted very beautifully in walnut-wood cases, having the appearance when shut of a lady's writing-table. They also have some excellent specimens of all kinds of work, and complete cases of the different guides.

Messrs. Bruchner have some small foot-working machines, neatly finished, and apparently of good workmanship, for the very low price of 95f.

Belgium.

Belgium.

Of the four exhibitors named in the catalogue, only one (H. J. Petit, of Brussels) has sent machines.

Canada.

The machines exhibited by Canada are very highly creditable to the rising industry of that important colony. No less than five different towns—Toronto, Belleville, Guelph, Hamilton, and Montreal—contribute exhibits in this class. The machines are on the American patterns, and do not seem to call for separate notice.

Other Machines.

Other machines.

In the two other divisions of this class—machines employed in the manufacture of boots and shoes and those used in the making of hats—there is nothing very remarkable or new to notice, the Exhibition, except in France, being very meagre indeed.

In the French gallery the visitor may see the whole manufacture of felt hats. The process of making the felt is

CAPTAIN HICHENS ON APPARATUS FOR SEWING, &c.

interesting. The fur, after being passed between rollers, is driven out through a funnel by a rapidly revolving fan on to a revolving perforated brass cone, from under which the air is exhausted, and upon which, consequently, the felt is held down by atmospheric pressure. It is thus sufficiently consolidated to be able to undergo the subsequent operations, all of which, up to the tying of the last ribbon on the hat, may be seen at the exhibit of M. Haas (12). The machine used in the manufacture of the felt is made and exhibited by M. Coq, Fils. Just on the opposite side of the French machine gallery the whole operations of the manufacture of boots by machinery may be seen.

There are, besides, some few exhibits which cannot well come under any of the three main groups into which Class 57 is divided. For instance, M. Thirion (3), in the French section, exhibits brass busts on which corsets are to be made. M. Chevard (17) has a mechanical arrangement for taking measures for coats, shirts, &c. In the English section Mr. Sparks Hall exhibits an upright shoemaker's bench, from which he expects the trade to derive enormous benefit to its moral and physical condition. In his pamphlet of some twenty pages in which his invention is described, and where many pleasant anecdotes of great shoemakers may be found, Mr. Sparks Hall winds up as follows:—"Among these "means (of improving and preserving health) I feel sure that "my invention occupies no unimportant place; I therefore "earnestly invite you to avail yourselves of it, hoping that "it may become a widely-extended benefit and a help "towards improving the physical and moral condition of "shoemakers generally, but especially of the rising genera-"tion, to whom I look with some hope for an industrious, "intelligent, and *upright* race of tradesmen.

"PRICE:—

"The bench complete, with drawers	-	£2	0	0
Ditto without drawers	-	1	5	0"

One pound five shillings is certainly not a long price to pay for a *mens sana in corpore sano*, and I sincerely hope that Mr. Sparks Hall's anticipations may be realized. There is no doubt that the cramped position in which shoemakers generally work is very injurious to health, and the upright bench appears to furnish the means of working in a more convenient posture.

Report on Carriages and Wheelwrights' Work.—(Class 61.)—By George N. Hooper, Esq.

Mr. Hooper on Carriages, &c.

In drawing up a report on the carriages of the Paris Exhibition of 1867, it is hardly necessary to give a lengthened history of the art of the carriage builder in past ages. What is more important is to mark the present position of the trade, and the changes and improvements that have taken place in various countries, and if possible to endeavour to give some hints that may lead to a still higher perfection.

Short history of carriage building.

The art of carriage building dates from a very remote antiquity, and if any credit belongs to those whose long line of predecessors have by assisting intercommunication rendered service in advancing civilization, the coach builders are fairly entitled to credit for valuable services so rendered.

We have reliable information in the sacred writings concerning the use of chariots by the Israelites, Egyptians, Assyrians, and other nations of antiquity, and as most of these were for purposes of war, they must of necessity have been made sound and strong to sustain the wear and tear of distant expeditions, and doubtless, they were ornamented in a manner that accorded with the style of art pertaining to the period.

Under the Romans, if not under the Greeks, the art had a higher development, as it is well known that the former people established good carriage roads through a great part of the countries they conquered, which were served with regular posts. Despatches and letters were conveyed with great speed and punctuality to the most distant parts of their vast empire.

Suetonius (De Aug. xlix.) mentions that the Emperor Augustus established on the military roads, at first active young men, and afterwards carriages to convey his despatches to his provincial governors. Subsequently, his successors organized the system over a great part of the Romam empire.

* The following were the carriages used by the Romans:—

The Cisium, a gig or light open carriage for one horse kept for hire at the post stations along the great roads.

The Currus, a chariot or car, a two-wheeled vehicle, open overhead, and thus differing from the carpentem, was com-

* Smith's Dictionary, pp. 242, 288, 378, 379, 994.

Mr. Hooper on Carriages, &c.

monly drawn by two horses and then called bigæ, if with three horses trigæ, and if with four horses quadrigæ.

The post carriages were called carpenta and rhedæ, and were drawn by eight horses or mules. The invasions of the barbarians destroyed the whole system of Roman posts.

Early British history* presents to our view the essida or essidum (from the Celtic *ess*, a carriage), the name of a war chariot used by the Britons, Gauls, Belgæ and Germans, open in front and with the pole wide enough to walk upon. There were about 4000 of these in the army of Cassibelaunus. (Cæsar, Bel. Gal. v. 19.)

These carriages were copied or adapted by the Romans for purposes of luxury and convenience, and were kept at the post stations for hire.

After the dissolution of the Roman empire the art seems to have fallen into disuse and was at length lost: It was, however, revived by the Italians, Spaniards, French and English in the 16th century. It is fortunate that some of the carriages of each country have been preserved to give an idea of the art as it was then practised. In England (1669) King Charles II. granted a charter incorporating The Worshipful Company of Coach and Coach-harness Makers in the city of London, conferring on them certain privileges and rights in order to encourage and protect a trade that had not been very long established, and was thought to require support. The company still exists, and in February 1865 granted the use of its hall for the purpose of enabling the carriage workmen of London to hold an exhibition of their handicraft, at the same time rewarding the most skilful with handsome bronze medals.†

The Coach-makers' Company of the city of London.

As to the suitability of the Exhibition building.

In considering the carriages of the Exhibition, it may be well first to notice the building that contains them. The great building in the Champ de Mars can hardly be compared with a permanent building, and indeed has no pretension to one, it being in reality an immense repository for the goods it contains. In many respects it answers its purpose admirably.

For geographical arrangement and classification its zoned form was most convenient, and persons wishing to visit and compare any particular class of goods of several countries were enabled to do so without difficulty.

* Smith's Dictionary, p. 476.

† The company has also made a grant of money as prizes for successful candidates in "applied mechanics" and in "free-hand drawing" at the examinations of the Society of Arts.

The chief advantage of the original plan would seem, however, to have been overlooked in the separate buildings and annexes in the park, and, in the opinion of many, the Exhibition building itself was open to the serious defect that from no part could a really fine perspective view be had.

Where the carriages are to be found.

The carriage department for each country was intended to be in the great outer zone of the main building, among the machinery, but although the French, English, Prussian, Austrian, Italian, Dutch, Canadian, and Roman carriages will be found there, the carriages of Russia, Belgium, Switzerland, the United States of America, Norway, and some belonging to France will be found in the annexes of their various countries.

The mode of displaying the carriages.

The carriage class has on this occasion received much more consideration for its wants than at any previous French exhibition, and if the foreign carriages are not quite so well shown as the French ones, they, at any rate, have a very liberal allowance of space, and are much better placed than any of the foreign carriages at the two London exhibitions of 1851 and 1862, and the Paris exhibition of 1855. On account of the shape of the space allotted to the French carriages this year at Paris, their position and arrangement hardly show them to such advantage as the English carriages in the London Exhibition of 1862, where they were placed obliquely in long rows, so that it was possible at a short distance better to judge of their style and merits only, and the light so fell on them as to show to advantage the brilliancy of the varnish. The English carriage-builders on that occasion subscribed among themselves to provide suitable fittings to the department, and rendered it very attractive to visitors. Their example has on this occasion been followed by the French carriage exhibitors, who have laid down neat floorcloth over the whole carriage department, and enclosed it with ornamental iron standards, supporting handsome crimson covered ropes. This, together with the building of a carriage annex for the carriages and detached parts that could not be received into the main building, is said to have cost the French carriage exhibitors, together with the space they occupy, about 10*l.* sterling per carriage. It would seem that each country has the opportunity of exhibiting its goods best on its own territory, where arrangements are more easily made for their proper display. The carriages from England have, unfortunately for them, got entangled with the locomotives, and this somewhat detracts from the pleasing effect that the department should have in order to attract visitors.

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The manner of collecting the British carriages.

The manner of collecting the English carriages differed essentially from the French. After applications had been received from all who chose to apply for space, the proposed London exhibitors were called together at the rooms of the Society of Arts, where they elected a committee representing as far as possible each interest in the trade, which was rather a committee for distributing space than for selection of exhibitors; for, no applicant was refused space, and in no instance was space for more than two carriages allotted to one firm. The provincial coach-builders were provided with space by the local committees, and in only one case was space for three carriages allotted.

No charge has been made to British exhibitors for the space they occupy, the expense being borne by the British Commission, and no expense has been incurred by the British carriage exhibitors in rendering their department more attractive to visitors; and it is for them to judge how far a small expense would have been desirable to attain the end that all exhibitors aim at.

It would be ridiculous to suppose that England could not have shown a much better collection of carriages. The department presents an illustration of the free institutions of England, and is really an "all comer's meeting." It shows the liberal feeling, if not the discernment of the space committee.

The French carriages were collected on a totally opposite system. The first step was the nomination by the Imperial Commission of a committee of selection, composed of two Paris coach-builders of high standing, to represent private carriages, and the manager of the Paris General Omnibus Company to represent carriages for the public service.

The manner of collecting the French carriages.

Five of the principal firms of Paris coach-builders had each of them space for four carriages allotted in good positions. This at once secured 20 good carriages, and space was allotted according as it was judged that the applicants would best sustain the reputation of their country, all those whose productions were likely to render the department a mere bazaar being rigidly excluded. Thus it will be seen that the French carriages, even before admission, had passed a severe ordeal. This almost exclusive plan has secured a number of good carriages by several coach-builders, who had never before sent carriages to exhibitions, partly because of the very mixed character of former displays, and partly because no practical coach-builder, French or foreign, had ever before been nominated to act on the French carriage juries.

British public opinion would hardly allow a similar mode of proceeding, but the French display of carriages justifies the

French method, and will probably be of more benefit to the whole carriage-building trade of France, than if a large number of inferior carriages had been admitted, preventing the display of many superior ones, and depriving masters and workmen alike of the opportunity of examining and studying many good specimens of carriage building.

Allowance must be made for those British carriage-builders who have not cared to be represented by their productions in Paris. Periodical exhibitions are very heavy taxes on manufacturers; but the anxiety, worry, and hindrance to ordinary business which they entail are not felt by the general public.

Difficulty of collecting in an exhibition the highest types of British carriages.

It appears to be almost impossible to get together in any exhibition the very highest types and best specimens of British carriages. These may be seen best on occasions when Her Majesty holds courts or drawing rooms at one of the London palaces. On such occasions, the dress chariots, landaus, and coaches of the Queen, royal family, and British nobility are seen to the best advantage.

The composition of the jury for carriages.

The composition of the jury next demands attention. This is a matter which affects the interests of the exhibitors in a very decided manner, and it is not surprising that it is one on which they feel very strongly, it being of great importance that the jury should be composed in a manner that satisfies the great majority of exhibitors. Those who send their productions to exhibitions place their reputation and credit in the hands of the jury, and as there is practically no appeal from their decisions, the members of the jury accept a heavy responsibility in the awards they make. It is hoped that no jury ever knowingly places an exhibitor in a position other than that which he should in strict justice occupy; but if from want of special knowledge of the department they examine, exhibitors are not placed in their true relative positions, the injury is the same. On the other hand jurors have to be very cautious that they are not led into error by the mere name of an exhibitor who cannot sustain the relative position acquired by his predecessor, and is surpassed by an exhibitor previously less known, but whose talent and perseverance have brought his productions to a greater perfection.

The carriage jury of 1867 is thus composed:—

A Paris-coach builder represents the interests of the builders of French private carriages.

The manager of the Compagnie Générale des Omnibus de Paris, represents carriages for the public service.

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A German coach-builder represents German and foreign interests.

A British coach-builder represents British and foreign interests.

The mode of selecting the British jurors.

The selection of British and foreign jurors was conducted on different principles. In England the selection in Class 61 and probably in others was made by the exhibitors subject to the approval of the Commission, each exhibitor being furnished with a printed paper on which he was requested to name such persons as he considered suitable for the office. The French and foreign jurors were nominated by their respective Commissions without such concurrence of the exhibitors.

As regards the qualifications of the jury, it would be difficult to fix upon a better mode of representing all interests among the carriage exhibitors. However, they must be judged ultimately by the list of awards. It is said by some of the French carriage exhibitors that the carriage department has never been so thoroughly examined on any previous occasion, and most certainly it cannot be denied that Class Jury 61 worked incessantly at the examination in the very limited time allowed them, and besides had personal interviews with and explanations from a great number of the French, British, and foreign exhibitors, so as to satisfy as many of them as possible that their productions were not overlooked.

The public and exhibitors should not, as they did at the London Exhibition of 1862, rely exclusively on the decision of the class jury that has examined the carriages, as the awards were subject to the revision of two superior councils, the group juries (formed of the presidents and reporters of all the class juries of the group), and the Imperial Commission.

The tribunals of class juries, group juries, and Imperial Commission.

However perfect in theory such a series of tribunals may be as regards the strict accuracy and justice of their decisions, the practical result is, that by extending the proceedings and discussions over many weeks, most of the foreign jurors had left Paris, so that the ultimate decisions rested almost entirely with the French members of the group juries, and the Imperial Commission. Whatever may be the proportion of medals and awards allotted to France, foreigners will (whether rightly or wrongly) think that they have been augmented in the absence of the foreign jurors. Experience seems to show that foreign jurors cannot be kept together more than three weeks or a month at the utmost, they being generally selected from persons who are actively engaged in occupations which cannot be neglected for a longer time, and, in order to satisfy them that they are treated with

perfect fairness, arrangements should be made to conclude the decisions while they are able to be present, if indeed it would not be still better to treat as final the awards of the class juries. The proceedings of the group juries occupy a great deal of valuable time, and the decisions much depend on whether the presidents and reporters vigorously and cleverly advocate the claims of those they recommend. A little want of tact may lose for their class that which it is justly entitled to.

The perils of exhibitors in the group jury.

When it is considered that in voting the medals in the group which includes carriages (and which group also included such a variety of subjects, as processes of the art of mining, agricultural apparatus, shooting and fishing implements, apparatus used in chemistry, steam engines, and machines of all kinds, railway apparatus, telegraphic apparatus, civil engineering, public works, and architecture, navigation, life-boats, &c., &c.), the two carriage-jury votes were of equal value with any others in decisions on the merits of all the subjects comprised in that group, and that the jurors for all the subjects other than carriages in like manner gave their votes for or against the recommendations of the class jury for carriages, it will be understood how singular and uncertain an ordeal has to be passed by the successful exhibitors.

The character of the decisions of the group jury, and their uncertainty.

At the Paris Exhibition of 1855, the jury entrusted to examine the carriages was composed of ten members. The juror who from his occupation had most technical knowledge of carriages was manager of the company of the Messageries Générales, and the other members were gentlemen all celebrated in their several professions; but the mistake then was in placing the carriage department in the hands of any jury not including one or more practical coach-builders as jurors or associate jurors to advise on the decisions. The British juror, on that occasion, the late Marquis of Lansdowne (then Earl of Shelbourne), on his return to London, stated that he very much regretted that the Imperial Commission had not provided such assistance to the jury.

Composition of the carriage jury of 1855.

In the French report of Class 6 (carriages) at the London Exhibition of 1862,* General Morin has fallen into a slight error in comparing the speed at which passengers and mails were conveyed in France and England immediately previous to the time when railways in both countries superseded the use of malle-postes, diligences, and mail and stage coaches.

Reference to the French official report on the carriages in the London Exhibition of 1862.

* pp. 410, 411.

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Speaking of the French service, he notices the great acceleration of speed that had been at last obtained, and "that "the malle-poste between Paris and Brussels was timed to "be accomplished at the rate of from 15 to 16 kilometres "per hour, but that at such a speed the wheels of the "carriages were rapidly destroyed, the horses suffered in- "tensely, especially in the organs of breathing, and that "of a hundred horses purchased by the very intelligent "and clever Paris postmaster, M. Dailly, senr. there were "rarely found more than five or six that were fit for such "work," and that the postilions had called it "'travelling by "steam.'" And he further adds that "the English mails of "which they (the English) had long boasted the speed, "were at that time far surpassed by ours, and travelled at "the utmost from 12 to 14 kilometres per hour, in spite "of the brilliant appearance of their four horses, and the "unvarying dignity of the coachman."

If the general had ever travelled in England in a good mail or stage coach he could hardly have fallen into an error, which is so easily corrected from official documents in England.

On referring to the General Post-office in London, a tabulated statement of the speed at which all the mails were conveyed in the years 1835 and 1836 has been searched, with the following results:—

The speed of conveyance of the mails (by mail coach) in England and France compared.

The mails between Liverpool and Preston were conveyed at the rate of 10 miles 5 furlongs per hour, equal to $17\frac{1}{10}$ kilometres per hour (17 kilometres 109 metres).

Between Carlisle and Glasgow, at 10 miles 4 furlongs per hour, equal to $16\frac{9}{10}$ kilometres per hour (16 kilometres 910 metres).

Between London and Devonport, at 10 miles 3 furlongs per hour, equal to $16\frac{3}{4}$ kilometres per hour (16 kilometres 708 metres).

Between London and Bristol,
„ Gloucester and Carmarthen,

at 10 miles 2 furlongs per hour, equal to $16\frac{1}{2}$ kilometres per hour (16 kilometres 506 metres).

Between London and Holyhead,
„ „ and Birmingham,
„ „ and Liverpool,
„ „ and Manchester,

at 10 miles 1 furlong per hour, equal to $16\frac{1}{3}$ kilometres per hour (16 kilometres 304 metres).

Between Birmingham and Sheffield,
„ Pontefract and Leeds,

Between London and Bath,
„ York and Edinborough,
„ London and Halifax,
at 10 miles per hour, equal to $16\frac{1}{10}$ kilometres per hour (16 kilometres 103 metres).

The books of the British General Post Office searched.

These extracts from the old books of the London General Post Office (drawn up for the information of the authorities in 1835 and 1836) are sufficient to show that the public mail service in England was not surpassed by the French, and that what is set down as a "boast" on the part of the English was merely a statement of fact.

At the same time private enterprise carried on a successful competition with the Government in the conveyance of passengers, and many of the stage coaches surpassed the mail coaches in speed.

To such perfection had every arrangement been carried, and such was the punctuality of the completion of the journey, that it has been known that in journeys of 170 miles the time of arrival of the coach has for several days consecutively only varied by five minutes.

The driver of an English mail coach.

The "unvarying dignity of the coachman" is amusing as applied by a Frenchman to a mail or stage coachman of the olden time in England. These men were the "life of the road." The English coachman was almost invariably a hearty cheerful fellow, full of anecdote, fond of a chat, proud of his coach and of his horses, and willing to impart information to travellers as to any object of interest on the road. He frequently owned a share in the coach and horses he drove, was an "artist" in his craft, managed his high mettled team with great skill and courage, was full of resources in case of accidents, and was a sort of father to timid, nervous, and young persons when placed under his care. His skill was such that he would drive over a line of small coins placed along the road without missing one of them, and the seat next to him on the box was considered the "seat of honour," frequently reserved several days beforehand by gentlemen who wished to render their journey agreeable.

He was in addition a "professor" of his art, and many were the noblemen and gentlemen who learned the art of driving four horses under his tuition, and handsomely rewarded him for teaching them.

The driver of a French diligence.

Compare such a man with the "cocher" of a French diligence. The individual in the latter case was a "peasant," who generally brought his horses out of their stable and harnessed them himself, and then mounting his solitary seat at a distance from the passengers, proceeded to "get along" by

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a loud cracking of his whip, sometimes with one, at other times with both hands, taking charge of the reins in the meantime by sitting on them, his costume a blue linen blouse and trousers, his conversation addressed only to his horses; and having driven them a stage onwards, he withdraws to make room for a similar "knight of the whip."

Impartial judges of travelling in both countries will know how to decide this point; and if the large number of English coachmen, grooms, jockeys, and men having a special knowledge of horses, holding service in France, is any proof of the esteem they are held in abroad, it looks like a candid admission that France had much to learn from England on these points, and has already taken steps to improve.

The English "stage coach."

The first great merits of the English mail coaches were their lightness, compactness, and the height of their wheels; their weight was from half to two thirds that of the French diligences; the interiors of both were very similar, except that the English usually carried four, and the French six passengers. The great difference was the number of outside passengers carried on the English system. The English have a great delight in fresh air, and much prefer to breathe the pure air, than to be enclosed with a number of other persons by which the air must necessarily become impure.

Women were generally conveyed in the interior except in fine weather, when they frequently occupied outside seats, being helped up and down with convenient ladders kept at the post houses for the purpose. In cold or bad weather the outside passengers were well supplied with thick coats and wrappers, and protected from the rain with umbrellas. At the inns and hotels on the road, comfortable breakfasts, dinners, teas, and suppers were provided ready for the passengers the moment the coach stopped at its appointed place for refreshments.

However, the English mail coaches would hardly have been suitable for all parts of France, as on the journeys from Paris to Bayonne, Marseilles, or Toulon, when it would be necessary to pass two, three, and even four nights on the road. The continued exposure of the passengers to night air in winter could not have been endured, and possibly the continued exposure to the sun in summer would have been equally objectionable.

Good roads were essential for the success of the English stage coach.

In conclusion the English coaches required good roads; and France had not such roads at the time referred to and could not consequently have used English mail coaches, even if she had possessed them.

Now that the streets of Paris have been improved, and the narrow crooked streets of old Paris are being superseded by the handsome, straight, and beautiful streets and boulevards of Imperial Paris, English "drags" are being used with as much safety and comfort as in London. Two English firms have placed specimens of such carriages in the Exhibition of 1867, which may still further develop their use; and a French firm contributes one specimen well calculated to show how readily French coach-builders can produce an article of a totally different type to those they are accustomed to, should there be any demand for it from their Paris customers.

English "drags" can now be driven in the new and wide streets of Paris.

The carriages exhibited may be thus classified:—

Statistics of the carriages exhibited.

	French.	British.	Other Countries.	Total.
1. Phaetons	12	6	16	34
2. Landaus	13	9	8	30
3. Broughams	14	6	8	28
4. Barouches	6	13	7	26
5. Two-wheel carriages	2	5	4	11
6. Brakes and waggonettes	3	5	—	8
7. Private omnibuses	5	1	1	7
8. Sledges	—	2	3	5
9. Chariots	4	—	—	4
10. Public omnibuses	4	—	—	4
11. Drags	1	2	—	3
12. Coaches	2	—	1	3
13. Droskis	—	—	3	3
14. Travelling carriages	—	—	2	2
15. Sociables	1	1	—	2
	67	50	53	170

French	67
Foreign	103
Total	170

Six carriages were withdrawn from competition for rewards, four French and two English, in consequence of two of the jurors being members of the firms that exhibit them, namely,—

Carriages exhibited by Binder, frères, Paris, and Hooper and Co., London, withdrawn from competition for medals, and the reason.

Numbers 7, 8, 14, 15, France; "dress chariot," "barouche," "brougham," "phaeton," exhibited by "Binder, frères," Paris.

Number 14, Great Britain; "drag," "barouche," exhibited by "Hooper & Co.," London.

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Statistics of exhibitors.

Carriages for private use and sledges; also carriages for the public service.

Analysis of exhibitors and contributions.

Locality.	Exhibitors.		Carriages.	
France:				
Paris, (private carriage)	32		55	
Paris, (public)	4		4	
Provincial	8		8	
		44		67
Great Britain:				
London	15		24	
Provincial	16		21	
Colonial	3		5	
		34		50
Russia		8		12
Belgium		6		11
Prussia		5		6
Holland		4		6
Italy		3		4
Norway		4		4
United States		2		3
Rome		1		2
Austria		2		2
Switzerland		1		2
Tunis		1		1
		115		170

The number of exhibitors of the following are:—

—	French.	British.	Other Countries.	Total.
Full size working drawings of carriages	2	—	—	2
Small carriage drawings "to scale"	2	3	—	5
Printed books relating to carriage building	2	—	—	2
Carriage wheels	5	5 (2 Colonial.)	—	10
„ axles	10	1 (1 Colonial.)	2	13
„ springs	3	—	1	4
„ ironmongery	5	—	—	5
„ interior leather fittings	1	—	—	1
„ spring seats	1	—	—	1
„ cane work imitation	1	—	—	1
„ chasing	1	—	—	1
„ models	—	1 (1 Colonial.)	—	1
„ improved hinges	—	1	—	1
„ bent timber	—	2 (1 Colonial.)	—	2
Perambulators, Invalid chairs, Velocipedes	2	1	—	3
	35	14	3	52

As several exhibitors show articles under several headings, the numbers appear greater than they really are. Thus the French exhibitors really number 27; British 9, Colonial British 3 = 12; other countries 2; 41 in all.

——	Exhibitors	Exhibitors (jurors) who therefore withdrew from Competition for Medals.	Gold Medals.	Silver Medals.	Bronze Medals.	Honorable mention.
France	71	1	3	13	16	19
Great Britain	46	1	1	11	11	6
Russia	8	—	—	2	2	2
Prussia	5	—	—	—	2	—
Belgium	6	—	—	1	—	3
United States	2	—	—	2	—	1
Italy	3	—	—	—	2	—
Austria	2	—	—	—	1	—
Switzerland	1	—	—	—	1	—
Rome	1	—	—	1	—	—
Holland	4	—	—	—	1	—
Hesse	1	—	—	1	—	—
Sweden	1	—	—	—	—	1
Norway	4	—	—	—	—	1
Tunis	1	—	—	—	—	—
	156	2	4	31	36	33
Co-operators.						
France	—	—	—	3	3	7
Great Britain	—	—	—	—	1	6
	—	—	—	3	4	13

Having cursorily considered the foregoing topics, it is now time to pass on to the consideration more in detail of the carriages themselves. A glance at the accompanying tables of statistics will show that they numbered 170, contributed by 115 exhibitors of various countries:—

67 being French, by 44 exhibitors.

50 being British, by 34 exhibitors.

53 being of 11 other foreign countries by 37 exhibitors.

Singular results shown by examination of statistics.

On examining the figures in the tables closely, several singular facts are arrived at. On the French side, out of 67 carriages shown, 59 are contributions from Paris by 36 exhibitors, and eight only from all the French provinces by eight exhibitors. Truly, therefore, in this class, Paris represents France! But considering that many good carriages are made at Boulogne-sur-mer, Colmar, Bordeaux, Lille, and probably at such large cities as Marseilles, Lyons, Nantes, Rouen,

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Toulon, and Caen, it seems strange that so few productions from the French provinces, are to be found in the Exhibition.

On the British side, out of 50 carriages, 24 are from London, by 15 exhibitors; 21 are from the provinces, by 16 exhibitors; and 5 are Colonial, from 3 exhibitors; so that London only sends three more carriages than the provinces, and the latter out-numbered London by one exhibitor; whereas the carriages from Paris are more than seven times as numerous as those from the French provinces. Whether the proportion of Parisian and provincial carriages was pre-arranged in order to make a good assemblage, and thus to influence the number of awards to France, or was a matter of chance, the figures brought out by the statistics disclose at any rate a singular disparity in the conditions of display between France and England.

It will be noticed that the number of carriages from all other foreign states together only slightly out-numbered those from Great Britain, being respectively 53 and 50; but if to the latter, be added several carriages that arrived from Canada after the dispersion of the class jury, the numbers are as nearly equal as possible.

The number of carriages at the London Exhibition of 1862 was 140, being 91 British, 11 French, and 38 from 11 other states; so that the number of British carriages sent to the present Exhibition is nearly five times as great as those sent by France to the London Exhibition of 1862.

Great variety of national carriages.

There is another fact worthy of notice as regards the type of carriages shown by various states. The spirit of "nationality" seems to have found its exponent among the carriages, and there are more carriages in the present exhibition exemplifying this characteristic than at any former one. This is a good sign, showing as it does some pride and and love of country, and a willingness to compare with others, and probably to adopt improvements where comparison shows that they are required. This remark holds good with private carriages only, for from France alone are there contributions of carriages for the public service. Indeed, so great seems to be the difficulty of getting together for comparison the public carriages of the various European states, that it is well worthy of consideration whether a special exhibition of such conveyances, with suitable rewards for their improvements, might not with advantage be held in one of the European capitals. It is a public question, and one in which many millions of travellers are interested.

No foreign competition in carriages for the public service.

As regards most kinds of modern carriages, there is little difficulty in ascertaining the country in which they had their

Origin of various carriages.

origin; but with some few there are doubts. The following list, if not quite accurate, is believed to be nearly so :—

Coach	Kotze, Berlin	Hungary or Prussia.
Chariot	Coupé	France.
Barouche	Calèche	„
Britzska	Britzska	Austria.
Droski	Droitzska	Germany and Russia.
Cabriolet	Cabriolet	France.
Cab phaeton	Milord or Victoria	England.
Mail phaeton	Mail phaeton	„
Gig and Tilbury	Tilbury	„
Curricle	Curricle	Italy.
Landau	Landau	Germany.
Fourgon	Fourgon	France.
Dog-cart	To-car	England.
Omnibus	Omnibus	An Englishman named Shillibeer, in France.
Drag	Malle-Anglaise	England.
Park phaeton	Phaeton de parc	„
Brougham	Petit coupé	„ (Lord Brougham).
Double Broughams, Clarences	Clarence	England.
Wagonette	Wagonette	„
Sociable	Sociable	„
T-cart	T-cart	„
Sociable-landau	- - - -	„
Basket carriage	Panier-à-salade	„
Britzska-chariot	Eilwagen	Germany.
Spider phaeton	- - - -	America.
Rockaway	- - - -	„
Char-à-coté	- - - -	Switzerland.
Tarantas	Voiture de voyage	Russia.
Kibitka	- - - -	„
Telega	- - - -	„
Troika	- - - -	„
Outside car on two or four wheels.	- - - -	Ireland.
Sledges	- - - -	Russia.
„	- - - -	Norway.
„	- - - -	Germany.
„	- - - -	America.
„	- - - -	Canada, &c. &c.
Carriole	- - - -	Norway.

From this list of original countries of manufacture—
France contributes chariots, barouches, cabriolets, omnibus.

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Great Britain contributes dog-carts, drags, broughams, double-broughams, mail-phaetons, sociables, sociable-landaus, Irish-cars, Canadian sledges.

Russia contributes a "tarantas" for travelling in Siberia, droskies, sledges.

Norway contributes carrioles, sledges.

Switzerland contributes a char-à-coté.

America contributes a spider-phaeton.

Each of these carriages has or had some speciality adapted either to the climate, state of the roads, or habits of the people where they were first contrived and used.

Thus the "sledges" were of course only used in cold climates, where they could travel over ice or snow.

The "tarantas" of Russia has great strength, compactness, and capacity for carrying luggage, provisions, and bedding, besides tools and spare parts to make good breakages and losses.

The "char-à-coté" of Switzerland is long, narrow, and light, and is well adapted for traversing the mountainous roads of that picturesque country.

The "carriole" of Norway is light, inexpensive, and doubtless well adapted for the simple wants of a primitive people in a mountainous and thinly inhabited country.

The "spider-phaeton" of America is said to be admirably adapted to the wants of the people of the United States and some of the Australian colonies. It is so light and elastic that it bends and gives way under usage that would break a stiffer and heavier carriage.

The "chariots" of France help to keep up the state and ceremony that appertain to an imperial court, in the midst of a magnificent city. Its "barouches" carry the gaily dressed ladies of Paris to the Bois de Boulogne on bright summer afternoons. Its "cabriolets" are now nearly obsolete, but will probably again soon come into use among the "*jeunes gens de Paris*," as they are elegant and stylish carriages for those who keep good horses and know how to drive well. The "omnibus" is a great institution in Paris, and must be treated of separately.

The English "drags."

The "drags" from England are a never-ending attraction to crowds of admiring visitors, to a large proportion of whom they are an entire novelty; and of all "national" carriages they receive the most attention. Thanks to the French and British Commissions, they are very well placed near one of the large entrances. They are very characteristic of country life in England, where, as a rule, the pastimes and pleasures of the country are preferred to the gaiety and excitement of the towns. In England at the present time, however, such

carriages are used for driving in the London parks, for attending horse-races, for going to or from cricket matches, for pic-nics, and many other purposes connected with life at the mansions and country seats of the English nobility and gentry. As such carriages are very frequently taken considerable distances from home, and to places where it is difficult to procure suitable refreshment, a luncheon is on such occasions taken with the carriage; and it has been usual to spread it on a tablecloth placed on the grass, and for the company to sit round and partake of it. As the grass is frequently damp, and may not only be uncomfortable but dangerous to health, there is shown on one of the English drags an improved means for serving the luncheon with more comfort. This has been accomplished by means of making the boot doors and the sides of the front boot fall down and form tables. A folding mahogany table passes entirely through the body, projecting at the doors. The lunch, glass, plate, wine, &c. are all carried in suitable boxes, baskets, and ice-wells, neatly contrived so as not to interfere with the perfectly neat and gentlemanly appearance of the carriage; a point on which English gentlemen are extremely sensitive and particular.

The English "dog-carts" are essentially country carriages, and are nearly all made in the provinces. They are used for conveying sportsmen and their dogs on shooting expeditions, and are in general use throughout the country by gentlemen, farmers, and tradesmen.

Lord Chancellor Brougham.

The "broughams," first used by, and named after the celebrated Lord Chancellor Brougham, are more especially used in London and the English towns. Their use in the country has much increased of late years, as they are now built much lighter than formerly.

The "mail-phaetons" are much used by gentlemen who like driving their own horses both in London and in the country. It is the most convenient and suitable carriage for a gentleman to drive with a pair of horses.

The "sociables" are light open carriages for one or two horses. They are convenient of access with a single step, and, by reason of their lightness, for a time almost put out of use the barouches. Now that barouches have been improved, and their weight diminished, they are regaining quickly their place in public favour.

The "sociable-landaus" are a similar carriage to the "sociables," but with the addition of a landau top, enabling the carriage to be used in all weathers, and forming a comfortable open or close carriage at pleasure.

Improvements in landaus.

They were introduced eight or nine years ago in London, and have entirely superseded the heavy and cumbersome lan-

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daus of the past, which always required two large horses, and occasionally four when taken into the country. Such great public favour has been bestowed on these carriages that they are the staple manufacture of many British coach-builders. There are no less than 30 carriages of this type from various countries in the Exhibition, and although much more expensive, even out-number the broughams.

Their disadvantages.

They have several disadvantages, as have all carriages that are made to serve several purposes. Their perfect action depends on the rigid nature of the iron or steel plates that secure the bottom framing of the body, and as this has always many angles or sharp turns, the form is not favourable for the work imposed on it. The slightest movement of parts interferes with the exact position of the doors, head, glasses, blinds, curtains, locks, &c., and rough usage increases the tendency to go wrong. The constant raising and lowering of the head also tends to the destruction of the leather, so that the cost of repairs is heavier in proportion than with other carriages. As a consequence, where economy is not a special object, many persons now prefer keeping two carriages, such as a light barouche and light family coach, which latter carriages having also recently been much improved in lightness and elegance.

"Irish cars" away from their native soil are an anomaly. Even the English do not understand and appreciate them, and much less can it be expected that foreigners will do so. They will carry four or five persons with luggage, and are so well balanced and so hung that a horse will do a long journey with little fatigue. Their use is universal throughout Ireland, and after a few drives strangers get accustomed to the position of the seats, which at first seem strange. The same principle of construction has been applied to cars on four wheels for two or four horses, and under the enterprise of Mr. Bianconi have done much to improve the communication between distant parts of Ireland.

The "Canadian" sledges most unfortunately arrived so late that the jury was prevented from examining them. The Canadians, however, have a great reputation for making such vehicles very comfortable, and they have doubtless done their best on this occasion.

The manner of considering the relative merits of the exhibited carriages.

In examining the carriages of various countries as to their relative merits, the jury were guided by the following considerations, being those laid down by the London carriage jury of 1862, namely,—

1st. Their suitability for the purpose intended, giving comfortable accommodation to those who use the carriage.

2nd. Their good general design and proportion.

3rd. Their soundness and accuracy of workmanship, combined with good materials.

4th. Their improvement and novelty.

5th. Their construction, with a view that no part shall be unnecessary, and that every part shall be best adapted for its intended use.

6th. Their harmonious combination of colours.

Relative progress of different countries (as evidenced in the carriages shown).

Looking to the relative advance of different countries to a higher perfection, and taking the carriages examined by the jury as a standard, the credit of the greatest general progress must be accorded to France. It illustrates what the French did not give themselves credit for at the time the existing treaty of commerce between France and England was in course of arrangement, namely, that by putting forth their energies and applying their talents to what they undertook in the arts of peace, they were quite capable of holding their own against the manufacturers of other countries.

Next in order of progress stands the city of Rome, the contributions from which are few, but one of them, a landau on under and C springs was marked by great care and good taste in the design and execution.

Russia takes the next. place in relative progress, shown especially in the travelling carriage and park phaeton from St. Petersburg, contributed by two of the Russian Court coach builders.

Next in relative general progress stands Great Britain, not that some of its coach builders cannot still hold the lead acquired by their predecessors, as illustrated by several carriages of the highest excellence in the British department, but taking each national display collectively it must be confessed that the department would have stood much higher as to general relative progress if many of the carriages had been retained at their respective places of production.

The United States of America stand next, with several carriages of sound construction and high finish and of a purely American type, which is not held in such high esteem in Europe, as in the place of their production. However, it is becoming apparent that the prejudice against European carriages is not so great among Americans as it was formerly, for a number of European carriages are now finding their way into the United States.

Switzerland follows with a carriage purely Swiss, of which the construction may be thus explained. A tilbury body hung sideways on four wheels, with a light upright fixed head built up the back and ends; the front is enclosed and has a door in the centre; over the door and the lower front

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enclosure are windows; the persons seated inside thus see only one side of the road, which to tourists visiting the country for the pleasure of its scenery must be a disadvantage, but it must be remembered that it is so constructed for the convenience of travelling over narrow mountain roads.

The several other exhibiting countries seem to have made little perceptible progress, and the list closes with Tunis, whence is sent a humble coach on two wheels, such as one might fancy would just suit the queen of the gipsies.

British inventions take the highest position.

As regards inventions, improvements, and adaptations of varying degrees of merit and originality the British department stands first, and several carriages attract much attention from foreign coach builders and visitors.

The greatest novelty to visitors is Morgan's patent landau, the head of which can be readily raised and lowered without further labour than turning a handle, which acts on a screw in combination with a series of levers.

Next in order stands the landau with Fuller and Martin's patent. In this carriage also, a handle turned by the driver raises and depresses the head. It differs from Morgan's, inasmuch as the power is applied by means of a steel cord passing over a series of wheels in conjunction with levers regulated by the action of the steel cord. By an ingenious arrangement the system is applied to landaus having windows in the front sides.

Rock's landau stands next. In this carriage the head partakes much of the ordinary arrangement of such carriages. In order to facilitate the closing of the head a set of very carefully adjusted steel springs fixed in the body assist in overcoming the resistance of the weight that has in ordinary cases to be lifted in closing landau heads.

Hooper's "drag" is noticeable for the combination of arrangements which enable a party to partake of lunch by means of tables forming part of the carriage, and which are concealed when not required for use.

The barouche by the same firm is an example of lightness combined with elegance of outline. The colours of the wheels, springs, &c. &c., were arranged to produce a subdued brilliancy that at a short distance from the eye should give a chaste and pleasing effect. The interior is noticeable for the comfortable arrangement of the squabs and seats.

The "drag" and "barouche" of Peters and Sons are noticeable for the "chic" that appertains to all carriages turned out by that celebrated firm; and whether they are regarded from the point of view of refinement and good combination of outline, of general elegance and good proportion, or for high finish, they are carriages worthy of careful study.

The barouche of Laurie and Marner is a carriage that also deserves examination, as well for elegance and high finish as for rich combination of colours.

The landau of Wyburn and Co. is a good example of the elegant and stylish carriages of this class, and is noticeable for good outlines and proportions as well as good combination of colours.

The miniature brougham of Aldebert is an example of the very light broughams now built in great numbers in London, the combined use of tough steel and hickory having given a great stimulus to the production of such light carriages. It is probably the lightest brougham in the Exhibition.

The carriages of Messrs. Holmes are noticeable for the care bestowed on the painting and the high finish and brilliancy of the varnishing.

The private omnibus of Mr. Starey is noticeable for its good outline and style; the inside and outside seats are roomy and comfortable; the painting and lining are executed with care and good taste.

The carriages of Messrs. Hutton are noticeable for the quiet good taste of the colours and their good finish.

The carriages of Mr. H. Mulliner are noticeable for their lightness, and their suitability for use in hilly parts of the country.

The barouche of Mr. F. Mulliner is noticeable for its good style and correct outline of body, together with good taste in the colours.

The French carriages.

On the French side the carriages of Messrs. Binder frères claim the first attention. Their "dress chariot," built for Count Nieuwerkerke, is a very good specimen of coach building. The body leaves nothing to be desired as regards the refinement and good treatment of outline, the side rounding and turn under being in perfect harmony with the general form. The lining and hammercloth do credit to the high standing of the Paris coach trimmers. The painting of the arms on the panels and the chased silver ornaments of the hammercloth are also of great excellence.

The carriages of Messrs. Belvallette frères have at each Exhibition shown a sure and steady progress on the preceding one, and have always been rewarded by the juries on each occasion. Their "drag" has so close a resemblance to the English ones in ordinary use, that at a short distance it would be difficult to say whence it had its origin. It has many excellent points as regards construction and finish, and does them much credit. Their posting barouche is also a carriage of high excellence as regards outline, proportion, and style, and good taste in painting and lining.

The cabriolet of M. Ehrler* is of elegant form, and is besides well balanced. The workmanship is excellent, and the colours are in good taste. It is moreover very comfortable.

The landau by the same builder is of elegant form and high finish.

The brougham of M. Poitrasson is of good style, materials, workmanship, and high finish.

The little dress coach of M. Kellner deserves careful examination, and is a good illustration of a class of carriages made with great success in France to meet the demands of wealthy persons in tropical climates, especially of those to whom show and glitter is essential. Firstly, it is of good outline, proportion, and style. Secondly, it is light, and suitable for the small horses generally used in such countries. Thirdly, its general treatment is rich and handsome, without being tawdry. Fourthly, the construction is good and sound, giving promise of a fair amount of durability. Fifthly, the workmanship in the departments of painting, trimming, chasing, &c. show good ability; the painting is rich, the lining is sumptuous, and withal has an air of chaste and elegant richness.

The coach and landau of M. Moingeard are specimens of well wrought designs, carefully proportioned, and with refinement of finish.

The landau on C springs of M. H. Binder is of excellent design and proportion, and the colours are in good taste. The same may be said of his brougham. The lining of black satin relieved with scarlet has a very happy effect. The park phaeton is of elegant form, light, and well hung.

The brougham of M. Wiederkehr is an unusually good specimen of a provincial carriage, and well deserves in every way its high position in the list of awards.

The barouche of M. Desouches is of good form, well hung, has good materials and workmanship, and is a stylish park carriage. The same remarks apply to the brougham, which besides has the advantage of M. Desouche's improved door lock, by which arrangement the inside handles for opening the doors are not so liable to injure ladies' dresses as the projecting ones in ordinary use.

The landau of M. Bouillon has an arrangement by which the doors can be opened while the glasses are up, and the carriage is besides finished in good taste.

The chariot and phaeton of Messrs. Delaye are noticeable for the skill shown in the iron work, not that the costly and

* France is much indebted to this house for many of the improvements introduced in French coachmaking within the last 20 years, tending greatly to the development of an important industry.

useless work tends to render the carriages better, but merely shows the ingenuity and patience of the workmen in overcoming certain difficult processes in their art.

The carriage from Rome.

The landau on C springs sent by M. Casalini from Rome is a remarkable carriage; the body, for refinement of outline and general form, leaves nothing to be desired. It combines all the latest improvements as regards the flat falling of the head, is well hung, and is painted and lined with good taste. Were it not that the leatherwork is coarsely wrought it would be considered a very perfect carriage.

The Russian carriages.

The park phaeton of M. Breutigam, from St. Petersburg, is of good form and style, well proportioned, and finished in good taste.

The "tarantas" or Siberian travelling carriage of M. Nellis, from St. Petersburg, has many points of great excellence. It is a difficult problem cleverly solved, namely, how many comforts and conveniences can be combined in a carriage without rendering it too heavy or too complicated? The answer is the carriage itself, which must be judged of solely for the purpose intended, and not by the standard of Western Europe, where good roads and hotels are abundant. Thus in a thinly inhabited country there must be space for provisions, bedding, fire-arms, musquito nets for summer, and secure shelter from the severe snowstorms of winter, and tools and spare parts in case of upsets and breakages, together with boxes for clothing and other things that are usual for travelling carriages.

These two carriages alone show what rapid progress Russia has made in carriage building during a very few years, and as the exhibitors are well educated men of considerable intelligence, paying frequent visits to London and Paris, they are likely to make still more rapid progress now they have overcome the chief difficulties in their way. Having been able to train a certain number of native workmen up to a given standard of skill, they will in all probability soon train others to the same, or even a higher standard.

M. Arbatski, of Moscow, sends a two-wheel trotting carriage, "à l'Americaine," weighing only 44 lbs.; and a four-wheel trotting carriage "à la Russe," weighing 55 lbs.; these are illustrations of the close resemblance of Russian and American tastes, the good folks of "Moscow" being as fond of trotting matches as those of "New York."

The American carriages.

The "trotting phaeton" of Messrs. Wood Brothers, of New York, is noticeable for its lightness and its high finish.

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The "light phaeton" of Messrs. James Hall and Son, of Boston, has also good workmanship, materials, and high finish.

The Prussian carriages.

The landau shown in the Prussian department by M. Henning illustrates an effort made in another country to make such carriages in accordance with the wants of the public. Whether the invention was original, or the idea was taken from Morgan's English patent, and the same end worked out by a different method is not certain; however, the head is made to open and close by means of a lever placed on the left side of the driver. The invention is ingenious, and answers its purpose up to a certain point. Simple as the lever system is, it is not so effective as Morgan's plan, which is worked by a powerful screw. The force required to put the lever in action is so great that only a powerful man could work it when encumbered with the charge of his horses. The invention would be rendered much more useful by combining it with Rock's plan of balancing the head with concealed steel springs, and thus removing the necessity of exerting so much force on the lever. By adding Henning's action to Rock's, the latter would become a self-acting head, instead of, as at present, merely a balanced head somewhat more easily opened and closed than those on the ordinary plan. Both inventors may be of service one to the other, by combining the best parts of each system.

The probable effect of combining Henning's & Rock's inventions in one landau.

A military ambulance (said to have been used in the war in Germany last year) was placed among the Prussian carriages, but as such vehicles could be much better appreciated and judged of by the jury for "Military Equipments," the carriage jury left the matter in their hands to be examined and reported on.

The Swiss carriage.

The char-à-coté of M. Hauch, from Geneva, is noticeable as a type of "national" carriage, and has been already described with other national carriages. The workmanship and materials are good.

The list does not include all carriages of merit; its object is to indicate those that are most remarkable for invention, improvement, or great excellence.

This list might be much extended, and does not by any means include all carriages of merit; its object is chiefly to point out to visitors, but more especially to coachbuilders and workmen who visit the Exhibition, those productions which show invention, improvement, and great excellence, either of form, construction, or other feature worthy of notice and study. The reporter has on this occasion a duty of extreme delicacy and difficulty to fulfil, being himself a member of a firm of exhibitors. At the International Exhibitions held in London in 1851 and 1862, the juries appended to each exhi-

bitor's name a concise account of the merits of his goods, and a reason for the award, signed by all the jurors as their joint opinion. On the present occasion, as the class juries were only empowered to send to the Imperial Commission a classified list of exhibitors without remarks, it is necessary for the reporter to preserve some record of the most remarkable objects in the class in accordance with the instructions received from the British Commission, that British reporters should take note of what it is specially desirable that the British public should be made acquainted with.

The carriages for the public service next demand attention. In this important division there is no foreign competition, the only competition being among French exhibitors.

The public carriages of London and Paris.

The service of public carriages in Paris and London is organized on totally opposite principles. While that of Paris is conducted by several companies having large subscribed capital, extensive and well organized establishments, and under the rigid control of the prefect of police as to their safety and general condition, those of London are almost entirely left (with the exception of the London General Omnibus Company) to individual enterprise, with a very slight control by the police authorities. In addition to this the British Parliament subjects the service to heavy taxation; the tax on each omnibus amounting to about 23*l.* 4*s.* 3*d.* per year, and on each cab to about 16*l.* 18*s.* per year. In addition to this, Parliament has also fixed the tariff of prices. Having bound that service hand and foot by heavy taxation and a tariff of low fares, the owners of the vehicles have to cut their coats according to their cloth. The public carriages as well as the hotels of a metropolis of a great empire should be somewhat in accordance with its wealth and station among nations, rendering their visits agreeable, and leaving a good impression on strangers, but it must be at once admitted that the cabs of London deserve condemnation alike at the hands of Londoners and foreigners. There are some redeeming points which it is only fair to mention. There are a certain number of "hansom-cabs" on two wheels, well appointed, well horsed, and well driven; their colours are gay, and their brass or silver fittings clean and bright. These give a cheerful aspect to the streets, they get over the ground quickly, and leave a good impression on those who use them.

It is for the four-wheel cabs of London (which far outnumber the "hansoms") that reform is so much needed. They deserve all that General Morin has said against them in his report to the French Commission on the carriages of the London Exhibition of 1862 (p. 414), but they certainly

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travel faster than the cabs of Paris. These latter are in several respects better than the London ones; they are better built, and are generally clean. But although they get about faster than formerly, their pace is still slow.

Notwithstanding the taxation and low fares of London cabs, they are very numerous, and are used by all classes, from the nobleman to the servant going to her new situation, or the sick patient going to a hospital.

The cheap rate at which they ply for hire renders them useful in carrying goods as well as in conveying loads of luggage to and from the London railway stations; these are matters of great convenience and should not be entirely overlooked, but they are coarse, dirty, and ill kept. What is wanted, is, a better class of cabs for those who are willing to pay a higher price for their use, and this would not be a matter of great difficulty to any municipal council. but appears too small a social matter to engage the time of the Imperial Parliament.

The taxation on London omnibuses.

APPROXIMATE TAXATION of CARRIAGES for the PUBLIC SERVICE.

LONDON.*

Omnibus.

	£	*s.*	*d.*
Annual licence - - - -	3	3	0
Duty, ¼*d.* per mile, 60 miles per day, 6 days per week - - - - -	19	11	3
Driver, stamp and badge - - -	0	5	0
Conductor, ditto - - -	0	5	0
	23	4	3

The taxation on London cabs.

Cabs (four seats).

Annual licence - - - -	1	0	0
Duty, 1*s.* per day, 6 days per week - -	15	13	0
Driver, stamp and badge - - -	0	5	0
	16	18	0

PARIS.

Ditto on Paris omnibuses.

Omnibus.†

(At 6 days per week.)

	£	*s.*	*d.*
5fr. 70c. per day duty to City of Paris -	71	7	6
1fr. 10c. per day to the Government -	13	15	10
	85	3	4

* Omnibuses and cabs working on Sundays pay a proportionately higher tax.

† Drivers and conductors are considered in France to belong to the class of workmen (not servants), and are therefore not taxed.

Cabs (four seats).

(For hire in the streets.)

	£	s.	d.
1fr. per day duty (6 days per week) -	12	10	5
96fr. per year duty - - - -	3	16	8
	16	7	1

The taxation on Paris cabs.

Coach-house Cabs (four seats).

96fr. per year duty - - - -	3	16	8

Ditto on Paris "voitures de remise."

TAXATION on LONDON PUBLIC CARRIAGES.

Total amount levied on London public carriages.

Omnibuses.

	£	s.	d.
Licence duty - - - -	3,732	3	6
Mileage duty - - - -	43,395	3	8
	47,127	7	2

Cabs.

Licence duty - - - -	6,427	0	0
Day duty - - - -	106,032	9	0
	112,459	9	0
Duty collected by police for stamps and badges - - - -	3,372	10	0

The Paris cabs are not limited, as in London, to close or covered vehicles, but there are many comfortable and convenient open carriages. The better sort have a superior appearance to those of London, and are a source of enjoyment, not only to the French themselves, but also to foreigners visiting their capital.

The "voitures de remise" are not limited to close carriages.

The French claim great credit for the amount of care, thought, and study bestowed on their public omnibuses, and the success that has crowned their efforts. Looking at the matter from their point of view, this is not to be wondered at, as certainly they have accomplished all that they aimed at. The vehicle shown by the "Compagnie Generale des Omnibus" combines all the latest improvements that a large manufacturing establishment backed by abundant capital has been able to accomplish; and as regards soundness of construction, good suspension, and good finish, is a great success.

The design and construction of the Paris omnibuses.

Its panels are of sheet iron, which is much in favour with the company for the purpose; a simple moveable seat is provided for the conductor, allowing him an occasional rest, which is very necessary for men who have many hours of daily travelling.

Simple arrangement for enabling the conductors to sit occasionally.

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In London the men are only provided with the little board they stand on behind, and 12 or 14 hours of such daily travelling must have a pernicious effect in producing excessive fatigue, obviated in a very simple manner by the forethought of the Paris Omnibus Company. Their factory at Batignolles is well worthy a visit, and is willingly shown to visitors by applying to M. Lavollé at the chief office near the Palais Royal, or to M. Noisette at the works.

The Paris omnibuses from an English point of view.

Looking at the carriage from an English point of view certain questions naturally arise. Why is the driver separated from his fellow creatures when there is ample space on each side of him for two passengers? It is said that the hind legs of the Paris omnibus horses cannot be trusted, and that passengers mounting to such seats from the front would be frequently kicked. As a remedy for such a state of affairs the seats (if there) might be reached from the roof, as is frequently done in England, where they are generally preferred to any others. Again, why are the carriages so heavy? The reply probably would be that they carry so many passengers; but not more than the London ones, though carried in a different manner. The matter of weight involves that of speed, and it cannot be doubted that before long the Paris public will require to be carried at greater speed. The breed of horses has been much improved in France during 20 years, and if the French cavalry is better horsed, the private carriages better horsed and driven at a more rapid rate, railway trains accelerated, new, straight, and wide streets constructed to facilitate traffic, the pace that was suited to the narrow and crooked streets of old Paris is no longer suited to the Paris of Napoleon the Third; but with heavy vehicles greater speed is almost impossible. Not that the omnibuses of London are perfect models; the space allowed by law to each passenger being barely sufficient for ordinary comfort.

The London omnibuses travel faster than those of Paris.

However the London omnibuses travel much faster than the Paris ones; their colours are brighter, more varied, and more easily recognized by passengers and strangers than those of Paris; their route is marked in bold large letters on the panels, while those on the Paris vehicles are so small as to be difficult to read at a distance.

The omnibuses of both capitals might be much improved by adopting and combining the best points of each; the public would be better satisfied, and would support the owners more cheerfully if their wants were more cared for.

The American "tramway-omnibus", and its advantages.

It is, however, to America that we must look for "the omnibus" in its greatest perfection, as regards speed, space for passengers, and easy movement.

The Americans have managed to combine the advantages of the railway with the omnibus for the traffic of their great cities. While we in London have been spending fabulous sums in carrying railways over our houses and under our feet, they have laid down economical tramways in their streets, increased the capacity of their omnibuses, and, with the same allowance of horses per carriage, take their passengers with great speed and personal comfort. The luxury of their system was exemplified in a "tramway omnibus" shown in the American annexe; the high finish and neat arrangement of the vehicle left little to be desired in all the essentials of a good public carriage.

Its general use in certain American and Canadian cities and towns.

The plan is about to be introduced to the notice of the British public by Messrs. John Noble & Co., and has already been commented on most favourably by Dr. C. Mackay, who shows that it is in full working order in New York, Brooklyn, Philadelphia, Baltimore, Chicago, Montreal, and Toronto.

A prejudice exists in London against such a system by reason of a very imperfect pattern of rail having been laid down experimentally some years ago in London; its defects were so great that it not only lamed and injured many horses, but strained many private carriages, thus causing great inconvenience and loss to their owners.

The existing metropolitan railways by no means satisfy the great want of speedy and economical means of communication between the various parts of existing London, as may be judged by the crowded state of the streets, notwithstanding the great traffic carried on by the new railways. Since the introduction of omnibuses, about 30 years ago, but little improvement has been effected either as regards speed or comfort to the passengers; some system of tramway would undoubtedly render great service to those to whom time is money, and whose journeys might, by the American system, be more rapidly made.

Examination of the sub-class.

Next in order to be noticed is an important sub-class, comprising working drawings and detached and accessory matters that are sometimes produced in the carriage building establishments, but much more frequently by separate trades and individuals devoting attention to some special department. In this matter the French coach builders are much more efficiently aided than the British, and the number of French exhibitors in the sub-class to a certain extent illustrates the importance attached to it and the useful position it occupies. Its enterprise has been rewarded

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by a large export trade, which is yearly becoming more important, and their large well organized establishments offer great facilities to French coach builders for the rapid construction of their carriages.

Dupont's full-sized working drawing on paper.

The most interesting exhibit in this department, and the one that will in all probability have the most important and beneficial influence on the future of French coach building (and will be found in the French carriage annexe), is a full sized working drawing on paper of a landau on under and C springs, drawn by M. Albert Dupont (of 14, Rue Roussel), who has been awarded a bronze medal by the jury in recognition of his skill as a carriage draughtsman and designer. This exhibitor was one of the selected delegates appointed by the Paris workmen to visit and report on the carriage department of the London Exhibition of 1862, and also to visit and report on the London carriage manufactories.

At his studio he produces, at a fixed tariff of prices for French and foreign coachmakers, accurate full-sized working drawings of carriages, so that the operatives have only to work from them with care to carry out the precise intentions of the artist. If due care be given by the workmen in producing each part accurately, the whole will so fit when the parts are brought together, as to relieve them of a vast amount of trouble and annoyance resulting from the old plan of working by the "rule of thumb." The system was prominently put before the public at the Paris Exhibition of 1855 by M. Charcot, a Paris coach builder, and duly noticed in the English report of that Exhibition. The plan is not absolutely new, as it has been usual with all the best English coach builders to design their carriages at their full size in white chalk on large black boards kept for the purpose. The advantage of M. Dupont's plan of making them in pencil or colours on large sheets of strong paper is, that they can be put aside for future use, whereas, after the chalk drawings are rubbed out, their only records are the carriages built from them, or the measurement books of the master or workman.

Brice Thomas' publications.

The next in interest are the publications connected with carriage building by M. Brice Thomas, 106, Boulevard Haussman, who periodically publishes "Le Guide du Carrossier," a magazine, having a large circulation, devoted to the advancement of coach building. A bronze medal was awarded him by the jury. Not only does it furnish information relating to inventions, new processes, and various matters relating to the state of trade, the amount of exports and

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imports, coloured drawings of fashions, new forms, &c., but working drawings to scale, accompanied by all necessary measurements for producing the carriages they represent. It also supplies patterns of colours, with new combinations and tints. The editor does not confine his attention to carriages only, but has besides published some good illustrations of harness and saddlery produced by the best Paris manufacturers.

M. Guillon's publications.

Next in order are the exhibits of M. Guillon, of 80, Boulevard de Courcelles. (Honourable mention awarded by the jury.) These comprise a periodical publication connected with carriage building, besides various designs of carriages and harness. To M. Guillon belongs the merit of having first commenced such publications, which have had a very beneficial influence on carriage building in France. There exist similar publications in America and in Germany. Such a publication was carried on in London for several years, and enjoyed a large circulation. Its financial affairs were mismanaged, the publishers were unacquainted with the special requirements of the coach builders, and so it ceased to exist. Looking to their success in other countries, when managed by persons duly qualified, there is an opening in England for a similar publication, as well as for a producer of full-sized working drawings like those made by M. Dupont. In fact it is to be hoped that at no distant time all the best English body and carriage makers and smiths will be able to draw out their own portions of work, in order that they may fully understand what they are required to produce before they commence their labour, and the necessity of their working in harmony in order to produce a successful result.

The studios of the three last-mentioned exhibitors should be visited by all foreign master coachmakers and coachmaker's workmen during their stay in Paris.

French machine-made wheels.

The wheels shown by Messrs. Colas, Delongueil, and Communay, of Courbevoie, deserve special notice as representing important works for producing carriage wheels by machinery in order to meet the large and increasing demand for wheels caused by the increasing traffic of the city of Paris. This establishment illustrates the rapid advance made in France by the application of well contrived machinery to facilitate the production of articles for which there is an increasing demand. This establishment well deserves a visit.

English ditto.

The machine-made wheels shown by the "Leamington Wheel Company" (Great Britain) also deserve notice as an attempt to supply the very large and increasing demand for light carriage wheels in England, most of the large wheel

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works at present being fully occupied in producing heavy wheels for waggons, carts, omnibuses, and public cabs.

The show of axles, springs, coach ironmongery, &c. in the French carriage annexe deserves notice, as does also the show of carriage laces and of coach ironmongery in the department immediately adjoining that of French carriages.

British invention in connection with carriage building.

Next in order is the subject of general invention as connected with carriages, in which England claims and is justly entitled to a very high position, in fact, such a rank as England may justly be proud of.

Elliott's invention and patent of elliptic springs in 1804.

If it be asked in what do carriages of to-day differ most from those of 50 years ago, it must be answered at once that it is in reduction in weight and their consequent increased facility of movement. In the year 1804 Obadiah Elliott invented and patented his plan for hanging carriages on elliptic springs, thus dispensing with the heavy combined wood and iron perch and cross beds that had invariably been used up to that time. This invention had such merit that it has virtually put the old plan out of use, and of the 170 carriages in the Exhibition it is probable that more than 100 are hung on Elliott's plan more or less improved and modified.*

Its general application at this time.

The addition of under springs to perched carriages by Windus in 1818.

Subsequently the addition of under springs to perch carriages, about the year 1818, was made by Windus. This was a grafting on of Elliott's invention to the old system. It was found that the elliptic springs did not give sufficient ease to the carriage on bad roads, and the addition of a set of horizontal springs below the C springs had the advantage of rendering the carriages easier and more durable, by relieving the perch and beds from the direct concussions caused by ruts and holes.

The introduction of concealed hinges in 1818.

About the same time concealed hinges were invented. For many years the workmen found so much difficulty and trouble in fitting and adjusting them that only the most skilled men could apply them; now all good workmen are considered able to apply them, and they are in general use in every country that can make carriages even tolerably well.

The invention of japanning leather.

To England is due the invention of patent or japanned leather. Before this improvement all open carriages were made with heads and aprons of black greased leather, and those who used them were always liable to soil their hands, gloves, and clothes in the course of a drive. This was especially disagreeable for ladies, whose delicate coloured dresses

* He was rewarded by the gold medal of the Society of Arts, and built large numbers of carriages under his patent.

suffered more than the darker clothes of the gentlemen. The comfort of an open carriage is therefore much enhanced by the invention. The best carriages all over the world are now always furnished with the improved leather, which is made very successfully in other countries besides England.

The invention and patent of axles to carry oil, by Collinge in 1792.

In 1792 was invented the improved and patented axle by John Collinge, enabling a carriage with such axles accurately fitted to carry a supply of oil for three months, avoiding the noise and rattle of the old grease carrying axles, and avoiding the dirty and troublesome process of fresh greasing every day, besides the annoyance in travelling of being occasionally stuck fast in the road from the greasing being badly performed at the last halting place.*

The introduction of wrought-iron perches by George Hooper, sen., in 1846, and their general use at this time.

In 1846 was introduced and perfected, by George Hooper, sen., the system of suspending carriages on a single wrought-iron perch supported on horizontal under springs. The plan was rendered possible and successful by relieving the perch of the sudden concussions and vibrations of the road by means of the under springs; so that the perch being light, and to a certain extent elastic, enabled all the other parts in connexion to be rendered proportionately light. Thus the wheels, axles, springs, beds, and ironwork were all reduced in weight; and although the system was at first applied only to broughams and light carriages, it has gradually been applied to some of the largest carriages now in use, not only in England, but in almost every country where carriages are made. In the present Paris Exhibition there are no less than 35 carriages from various countries suspended on this plan, and the three exhibitors of private carriages who have been awarded gold medals each show one or more carriages to which the system is applied.

The invention not appreciated at the Paris Exhibition of 1855.

The introduction of the cut through doorway by Joseph Holland.

Another invention of great utility was due to the late Mr. Joseph Holland, carriage juror at the London Exhibitions of 1851 and 1862. It is generally known in England as the "cut through doorway," and consists in making the carriage doors extend to the actual bottom line of the carriage, strengthening the parts of the bottom, where cut through, with strong plates of iron or steel fixed edgeways. It has been the means of rendering landaus and many other carriages more commodious, and accessible with a single step instead of the double folding step formerly almost indispensable. There is less chance of tripping in getting into or out of the carriage, the bottom framework being so much reduced in depth, and it has also permitted

* Such axles are now in general use in almost every part of the civilized world where carriages are built.

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more graceful proportions in consequence of the elbow or waist line being depressed, which renders the panels shallower and lighter in appearance.

The self-acting heads of "Morgan," "Martin and Fuller," and the balanced head of "Rock."

Next in order are the self-acting, balanced, and flat falling landau heads of Morgan, Martin and Fuller, and Rock, that of Morgan dating in 1862, and those of the other two dating between that year and 1866. There are examples of each in the present Exhibition, and their action has already been described. It is due to these inventors to give them credit for great ingenuity in the application of the separate and combined parts of their systems. They have besides helped on this occasion to uphold the national character for originality of invention in a manufacture in which England has for many years taken the lead of all other countries.

Spring-making machinery.

Several processes and improvements recently introduced in England are also worthy of notice. One is a spring making machine that cuts the bars of steel to a proper length, tapers the plates by passing the ends through elliptical rollers, rounds the end of the plate, punches the rivet hole, and forms the stud and its corresponding slit. The amount of labour saved by this machine is very great; the plates are more regularly tapered, and the work can be performed more accurately. They will doubtless soon supersede the old plan of tapering the plates, &c. by hand labour.

Wrought-iron axle boxes.

Another very recent introduction is the use of wrought-iron, instead of cast-iron, axle boxes. They are less in weight, less brittle, and are said to be more durable than those generally in use. It requires time to test their true value, and to ascertain if they fulfil all that is said in their favour.

Breeze fuel for smiths' forges; it produces little or no smoke.

Another recent process is of great importance to all coach-makers and coachsmiths. It consists in working the forges with a fuel called "breeze" instead of with coal. It is a partially burnt coal that falls through the bars of the puddling furnaces in making bar iron. It has the advantage of producing a clear strong fire without smoke. All practical coach builders know the injury done to their premises, and especially to their stock of carriages, by the smoke of their forges; and the fuel not only obviates this great nuisance, but prevents the workmen being rendered so dirty by their occupation. It allows their department to be kept cleaner and more cheerful, and will doubtless tend to their personal comfort, matters of no small advantage to working men.

Swedish iron bolts and clips, with Whit-

There have also been introduced by Mr. Richards, of Birmingham, bolts and clips of the toughest and best Swedish iron, screwed to Whitworth's pitch of thread. The advan-

tage of these bolts and clips is that they allow of smaller holes being made through the parts they fasten, a matter of much importance in the manufacture of light carriages that are made for work as well as for show.

worth's pitch of thread.

An ingenious plan has lately been devised by M. Belvallette, by which the spindle of the carriage door handle, acting on a series of cranks and levers, heaves the glass over the fence plate, drops it into the door, and thus saves the trouble of putting down the glass previous to attempting to open the doors of landaus.

Belvallette's invention for lowering landau glasses.

There are doubtless numerous other inventions and improvements that might be noticed. Those mentioned, however, have mainly decided the type and character of the carriages now in the Paris Exhibition. To the French belongs the credit of the application of tough steel instead of iron in aid of a reduction of weight. To them also belongs the credit of more comfortable and elegant carriage linings. Their metal chasing has more style, vigour, and character than that of England; and although the list of French inventions as applied to carriages contrasts disadvantageously with that of the English, and France has hitherto relied on England for her fashions and improvements, there are now signs of more vigorous life among French coach-builders; they are wanting neither in enterprise nor capital, and there seems a probability of a prosperous future before them.

French application of tough steel.

French metal chasing.

France indebted to England for carriage fashions and improvements.

In placing their carriages in position the Paris builders had an advantage over the English, inasmuch as they were only required to occupy their space a few days before the opening day, whereas the carriages from England had to be in the building several weeks in advance, and in the midst of the dust and dirt of incomplete building operations. Notwithstanding all disadvantages, most of the English carriages were not only in good condition for exhibition on the opening day, but the British carriage class was the first class completed in the whole Exhibition.

The department first ready for exhibition was that of British carriages.

The "Cluny Museum" in Paris contains the following antique carriages, &c. that deserve mention. Among them are the following:—

Antique carriages at the "Cluny Museum" in Paris.

A curricle built in Holland in the 17th century.

An Italian carriole, built at Verona in the 16th century by Gio. Batta Maretto. Painted by Vernicie.

An Italian state coach, built at Bologna in the 16th century for Pope Paul V.

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An Italian state coach, built at Milan for a French ambassador at Milan under Louis XIV.

An English state coach, built in London in the 16th century by Holden Constable for a Prince of Wales.

An Italian state chariot, built at Bologna in the 16th century for a member of the Farini family.

A sledge in the form of a dragon, gilt, built for Louis XIV.

A sledge formerly belonging to the Queen of Louis XIII.

A sedan chair, formerly belonging to a member of the Borgia family.

These specimens of the past have been collected within the last 18 months, and have not yet found their way into the Cluny catalogue.

They will, most of them, be found full of interest, not only from their excellent state of preservation, but from the taste displayed in their ornamentation, and in many cases the chaste arrangement of their colours. The London carriage will be interesting to British subjects as showing that their countrymen several centuries ago could produce state carriages that would bear comparison with those of Italy, which country then stood at the head of many manufactures requiring skill and good taste. Practical coachmakers will probably also be surprised to find on one, if not more, of these carriages veritable C springs, supposed by most people to be a comparatively recent improvement.

The Spanish state harnesses.

In the Spanish section of the Exhibition, and in a class allied to that of carriage building, is a case of saddlery and state harness made by D. Jose Rodriguez y Zurdo, court harness maker, of Madrid. It is not uncommon at International Exhibitions to discover certain manufacturers of great skill, little known beyond their own country. This exhibitor has published a work in the Spanish language on the manufacture of harness and saddlery, and if his talent as an author is equal to his skill as a manufacturer, the work would be well worth translating into English or French.

Zurdo's work on the manufacture of harness in Spain.

The collection of models, &c. at the "Conservatoire des Arts et Métiers."

The "Conservatoire des Arts et Métiers" should also receive a visit; in it will be found models, drawings, and plans of processes connected with almost every existing manufacture and art, a collection which reflects great honour on the French Government, and has doubtless tended much to the development of art and industry in France. Lectures are frequently delivered in the lecture room, which are very fully attended, and doubtless tend to the esteem in which this great establishment is held by the French people.

The streets of Paris.

In passing to and fro in the Paris streets visitors from all

parts of Great Britain will doubtless compare their own metropolis with that of France, and give a certain amount of credit to the Imperial Government for its policy in rendering Paris so worthy of being the capital of a great empire. Improvements are not confined to the capital, many of the large towns being now rendered more healthy and enjoyable. The public roads throughout France have also benefited by the care, and labour bestowed on them. Not only are they kept in excellent repair, but at the towns, villages, and cross roads strong and legible direction posts guide the traveller to his destination, informing him not only of the commune and department he is in, but the distance to the principal as well as the nearer towns.

The provincial roads of France.

Englishmen must live in hope that their metropolis will not always be as it is, and that its governing bodies will sooner or later take lessons in road making and management from the French.

London road making and road management.

As a slight evidence of the activity of the present generation of coach builders, it may be mentioned that some among the British exhibitors have during the last few years visited the United States, France, Russia, Italy, Spain, North, Central, and South Germany, Denmark, Belgium, Holland, and Switzerland. Among the French, several have not only visited Spain, Italy, Germany, and other adjacent countries of the continent, but have extended their travels to Turkey and Egypt; and not only were several Prussian, Austrian, and Italian exhibitors present when the jury made its examination, but there were present also exhibitors from Warsaw, St. Petersburg, and even Moscow.

Useful information has been kindly furnished by Messrs. Belvallette on several matters that may be interesting to Englishmen. An important industry exists in Paris, which although it has a counterpart in London has not reached so extensive a development. There are in Paris four or five large establishments of "loueurs de voitures," called in England "job masters" or "livery stable keepers." These Paris establishments have never less than from 200 to 300 horses, and an almost equal number of carriages. Besides these there are many smaller establishments keeping from 10 to 20 horses and as many carriages. This is said to be due to the large number of foreign visitors who resort to Paris.

The Paris "loueurs de voitures."

In England another system exists, not known in the same form in France. A very large number of carriages are built and finished to order, and hired for periods varying from three to seven years, on condition of a fixed sum, payable annually in advance, the coach builder doing at his own

London job carriages.

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cost all repairs except those caused by accident or unfair usage.

Wages of London and Paris.

The success of the export trade in any manufacture materially depends on the rate of wages paid and the amount of work produced for a given sum of money. In comparing the wages of coach workmen in Paris and in London for the best kinds of work, the wages of Paris are somewhat lower than those of London in nearly all branches. The greatest disparity exists in the pay of Paris bodymakers, who are paid much less than those of London, while, however, the smiths receive more. The reason may be this, that what is done by the London bodymaker, such as hanging doors, fixing plates, locks, hinges, &c., is in Paris done by the smith, who must acquire that special knowledge that is not expected of the Paris bodymaker.

A comparison of the hours of labour usual in Paris and in London may be interesting to both employers and employed in both capitals.

Hours of labour in Paris.

In Paris the men commence work at 7 in the morning and leave at 6 in the evening, allowing one hour for refreshments from 11 to 12 at noon, thus leaving 10 hours a day, and 60 hours for work in each week.

They are paid once every fortnight, on alternate Saturday evenings at 6 o'clock.

There is much less Sunday labour and business than formerly, and it seems to be still on the decrease.

Hours of labour in London.

In London the hours of work are, in summer, from 6 o'clock in the morning to 7 in the evening, allowing two hours for refreshment; from 9 to ½ past 9 for breakfast, from 1 to 2 for dinner, and from 5 to ½ past 5 for tea; and in winter the hours are from 7 to a quarter to 8 o'clock in the morning (depending on the time it is light enough to work) till 7 in the evening, allowing two hours for meals as in summer. And the system for the last two years has been to leave work every Saturday in the year at 4 p.m. Thus there are of working hours per week, in summer, $63\frac{1}{2}$; in winter, $57\frac{1}{2}$. They are paid every Friday evening at 7 o'clock.

There is no Sunday labour carried on in the London carriage manufactories (with very rare exceptions, and those mostly in the busiest period of the London season).

The Conseils de Prud-hommes and Conseils Syndicals of Paris.

There exist in Paris two special tribunals connected with the trade of coachmaking, the "Council of Prudhommes," and "the Syndical Council." The former is composed of equal numbers of masters and workmen, and examines into all disputes as regards the relations of masters and workmen. The experience of its working shows that its decisions are generally received as just arrangements between the

parties who appeal to it. The latter hears and decides matters in dispute between coach builders and their customers, as well as special matters that may be referred to them by the ordinary law courts. It also represents the interests of the French coach building trade in all commercial inquiries, and is charged with advancing its general interests.

Rent and taxation of London and Paris.

It is difficult to compare the question of rent and taxation in the two capitals; there seems reason to believe, however, that at the present time they are higher in Paris than in London.

Education of workmen and apprentices.

The subject of general education of workmen, not only in elementary schools, but in the theory and practice of their trades, deserves the utmost attention, in order that they may understand the laying out of the work, so that on its completion it may answer the purpose of its designer. To Great Britain this is specially important, in order to keep pace with the competition of foreign states, and to maintain in profitable employ the people of a densely populated country, whose prosperity largely depends on the success of its manufactures.

Alteration of award by Group Jury.

Now that the final awards have been made and published, some notice may be taken of the system on which they were arrived at, in order to justify the recommendation of the Class Jury. Although some deference is due from the minority to the majority on a Class Jury, there is likely to be much less from one colleague to another on the Group Jury, the members of which represent different trades, and are therefore not equally competent to judge of the merits of any particular class of manufacture. Thus, a majority of the Class Jury (61) placed five exhibitors on its list for gold medals, and on the matter being brought before the Group Jury 6, as it was said that the original number of 100 gold medals would not be increased, the aim of each member of the Group Jury was to reduce the list of his neighbour, and retain his own. The names stood thus—(1.) Belvalette. (2.) Peters. (3.) Paris Omnibus Company. (4.) Laurie. (5.) Ehrler. In order not to risk losing the whole, the three first only were recommended at the early meetings of the Group Jury; but a member of that jury proposed that if only two gold medals were awarded they should be given to the two first French exhibitors on the list, to the exclusion of the English exhibitor who was second on the list. This injustice was, however, frustrated.

Gold Medals increase in number from 100 to 900.

When the number of gold medals became, as it was ultimately, increased to 900, a claim was put in for the two exhibitors who were next on the list. It, however, pleased

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the Group Jury to omit the English exhibitor next in rotation (No. 4), and to confer the next gold medal on the French exhibitor (No. 5). This proceeding entirely altered the proportion of gold medals awarded to the two countries. As recommended by the Class Jury they stood in the proportion of two gold medals to French private carriage builders, two to English private carriage builders, and one to the Paris General Omnibus Company; there was a certain fairness of proportion as regards merit, but by the decision of the Group Jury the medals stand three to one in favour of the French, for which the foreign members of the Class Jury cannot be held in any way responsible.

The awards to co-operators.

The subject of awards to co-operators was brought before the Class Jury just previous to its dispersion; the selection of names on the list was made in the absence of the British juror.

Having now completed the report of the carriage department of the present French Exhibition, and furnished some information respecting the future and permanent interests of this particular branch of industry, it only remains to give a list of the awards recommended by the Class Jury 61, which were as under:—

The list of awards as settled by a majority of the Class Jury (61).

Gold Medals.

1.	Belvallette Bros.	France, 1.
2.	T. Peters and Sons	Great Britain, 1.
3.	Com. G. des Omnibus	France, 2.
4.	Laurie and Marner	Great Britain.
5.	G. Ehrler	France, 3.

Silver Medals.

1.	C. Poitrasson	France, 1.
2.	Kellner	France, 2.
3.	Wyburn and Co.	Great Britain, 2.
4.	W. Cole	Great Britain, 3.
5.	E. and G. H. Morgan	Great Britain, 4.
6.	Moingeard Bros.	France, 3.
7.	H. Binder	France, 4.
8.	W. H. Mason	Great Britain, 5.
9.	Wiederkehr	France, 5.
10.	I. Aldebert	Great Britain, 6.
11.	P. Casalini	Rome, 1.
12.	Desouches, Son, and Co.	France, 6.
13.	Rock and Son	Great Britain, 7.
14.	J. Rothschild	France, 7.
15.	C. Braeutigam	Russia, 1.
16.	C. Nellis	Russia, 2.
17.	J. Ward	Great Britain, 8.

18.	H. and A. Holmes	Great Britain, 9.
19.	Woodall and Son	Great Britain, 10.
20.	P. De Man	Belgium, 1.
21.	Remery, Gautier, and Co.	France, 8.
22.	Colas and Co.	France, 9.
23.	Dick and C. T. Wecker	Hesse, 1.
24.	E. R. Bouillon	France, 10.
25.	A. Mazzuchelli	France, 11.
26.	Muhlbacher and Son	France, 12.
27.	A. Henning	Prussia, 1.
28.	J. Cockshoot, jun^{r}.	Great Britain, 11.
29.	Wood Bros.	United States, 1.
30.	J. Hall and Son	United States, 2.

Bronze Medals.

1.	J. and A. Fuller	Great Britain, 1.
2.	T. R. Starey	Great Britain, 2.
3.	Ivall and Large	Great Britain, 3.
4.	E. Fredet	France, 1.
5.	J. C. Trefil	France, 2.
6.	N. Henocque, Arlot, senr., & Co.	France, 3.
7.	A. Dupont	France, 4.
8.	G. Bail, sen^{r}.	France, 5.
9.	L. C. Bail, jun^{r}.	France, 6.
10.	J. Lohner	Austria, 1.
11.	J. Neuss	Prussia, 1.
12.	M. Hansen	Prussia, 2.
13.	J. Hutton and Son	Great Britain, 4.
14.	W. and F. Thorn	Great Britain, 5.
15.	Labourdette, Brothers, and Co.	France, 7.
16.	Million, Guiet, and Co.	France, 8.
17.	G. S. Windover	Great Britain, 6.
18.	A. L. Geihel	France, 9.
19.	H. Mulliner	Great Britain, 7.
20.	M. Hauch	Switzerland, 1.
21.	M. L. Hermans	Holland, 1.
22.	Maurice Bouché	France, 10.
23.	H. Boulogne	France, 11.
24.	McNaught and Smith	Great Britain, 8.
25.	F. Bani	Italy, 1.
26.	A. Locati	Italy, 2.
27.	Morel Thibault	France, 12.
28.	Delaye, Uncle, Nephew, and Co.	France, 13.
29.	A. Frémont	France, 14.
30.	Brice, Thomas	France, 15.
31.	F. Mulliner	Great Britain, 9.
32.	A. Hesse	Russia, 1.
33.	N. Arbatski	Russia, 2.
34.	J. Evans	Great Britain, 10.
35.	J. and R. Offord	Great Britain, 11.

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HONOURABLE MENTIONS.

1.	F. N. Lemoine	France, 1.
2.	J. Cooper	Great Britain, 1.
3.	Davis and Son	Great Britain, 2.
4.	C. Raguin	France, 2.
5.	F. H. E. Delongueil	France, 3.
6.	Lelorieux, Brothers	France, 4.
7.	P. M. Charcot	France, 5.
8.	M. Saboleff	Russia, 1.
9.	P. Jakoleff	Russia, 2.
10.	Dufour, Brothers	France, 6.
11.	Delassalle and Son	France, 7.
12.	E. Boulogne	France, 8.
13.	Pilon	France, 9.
14.	Julius Sloor	Sweden, 1.
15.	Iversen	Norway, 1.
16.	Vincent	France, 10.
17.	C. B. Van Aken	Belgium, 1.
18.	J. and C. De Ruyter	Belgium, 2.
19.	A. Van der Borght	Belgium, 3.
20.	Kellerman	France, 11.
21.	J. M. De Wolff	Great Britain (Colonial), 3.
22.	O'Brien	Great Britain (Colonial), 4.
23.	Star Manufacturing Company	Great Britain (Colonial), 5.
24.	Maharajah Holkar	Great Britain (India), 6.
25.	G. Anthoni	France, 12.
26.	Huard, sen.	France, 13.
27.	A. Guillon	France, 14.
28.	G. Fontange	France, 15.
29.	C. Jaquier	France, 16.
30.	H. Juhel	France, 17.

AWARDS TO CO-OPERATORS.

Names.	Occupations.	Employers.
SILVER MEDALS.		
F. Tostain	Foreman	Binder, Brothers.
Breteau	Ditto	Paris General Omnibus Company.
Larcher	Ditto	Ehrler.
BRONZE MEDALS.		
J. P. Lake	Foreman	Hooper and Co.
Parvé	Bodymaker	Binder, Brothers.
E. Comté	Painter	Ehrler.
Fabas*	Engineer.	—

* Entrusted with the arrangement of Classes 61 and 62.

Honourable Mentions.

Names.	Occupations.	Employers.
Gau - -	Bodymaker -	Paris General Omnibus Company.
Guinand -	Painter - -	Ditto.
Caveyneau -	Carriage maker	Ditto.
Pierre Maitre -	Foreman - -	Belvallette, Brothers.
Cussonneau -	Ditto - -	Ditto.
W. Bolt - -	Bodymaker -	Hooper and Co.
W. Hewitt -	Painter - -	Ditto.
T. McGrath -	Foreman - -	Peters and Sons.
J. Bolton -	Painter - -	Ditto.
I. M. Leader -	Manager - -	Laurie and Marner.
W. Frift - -	Bodymaker -	Wyburn and Co.
P. Hudry -	Foreman - -	Faurax.
Rousseau -	Smith - -	Delaye and Co.

Report on Harness and Saddlery.—(Class 62.)—By H. Göschen, Esq.

The manufacture of harness and saddlery, if not deserving of very special notice, presents nevertheless many points of interest to the public generally, and more particularly to military men belonging to the mounted branches of the service. The result of an engagement may be affected by the good or bad equipment of the cavalry and artillery; bad saddles mean sore backs; ill-adapted harness is loss of power; cumbersome harness waste of strength. Some progress has doubtless been made of late years in the manufacture of military saddlery, both as regards utility and design; but there is not great scope for invention or radical changes, and I think that the chief point towards which manufacturers and inventors should direct their attention is the greatest possible strength of their articles, combined with the utmost possible lightness, for the weight still put on a horse's back is immense.

Military saddlery.

Captain Fenn, my colleague at the Exhibition, to whom I am indebted for a great deal of information, and whose long experience of saddlery in all its branches gives great weight to his opinion on the subject, lays much stress on the moral effect of harness, so to speak, on the horse. It is quite certain, as he says, that carefully fitted and adapted harness gives confidence to the horse not less than to his rider or driver. Badly-adjusted collars, useless flapping straps, shifting saddles or pads, give the horse uneasiness and nervousness, which are perhaps seldom thus accounted for; but in the matter of bits these remarks apply more particularly, for the bit is the medium of the rider's expression of his wishes or will. Most horses will go best on an ordinary bit with a moderately high port; for carriage horses in ordinary work I think even the port may be dispensed with. The excessively severe and powerful bits used in Egypt and the East, and of which there are many curious specimens in those departments in the Exhibition, would excite our horses at home to madness, and engender timidity and viciousness of various kinds. The small barbs and Arabs trained to cut a circle on a dining-room table become accustomed to those bits, and are generally ridden with a very light hand, but the use of them is exceptional, and they are for general purposes and certainly for European horses useless. Of course a runaway horse must

Captain Fenn.

Harness.

Bits.

Mr. Göschen on Harness and Saddlery.

be bitted with whatever will hold him, and Captain Fenn showed me an Egyptian bit of peculiar construction, something like a Segunder bit, with which he broke the jaw of an incurable bolter, which could be stopped by nothing else. Another important point to which attention should be directed is the invention of some system by which horses may be quickly released from their harness and carriage, or gun, &c., in case of accidents. Captain Fenn, himself an ingenious inventor, tells me that nothing satisfactory has as yet been devised. A variety of hooks on the traces, attached either to the harness or to the carriage, have been invented and tried, but nothing has as yet proved completely satisfactory. Many of these hooks may be seen in the various departments of harness at the Exhibition.

Hooks.

With these few remarks, intended to bring into notice the chief points that have suggested themselves to us as deserving study and attention, I proceed to the examination of the different "exhibits." This report being intended to be very brief, and to serve simply as a guide-book to the various stalls in which any novelties of invention or useful designs are to be found, it will be sufficient to enumerate only those exhibitors (and I regret to say there are very few) who have submitted anything specially worthy of attention to the notice of the public. It is, fortunately, beyond my province to draw any comparisons between the competitors; in justice to the English exhibitors, I may, however, be permitted to make one remark; in estimating how near the French come to us or how far they go beyond us in the manufacture of saddles, it must be remembered that the best pigskins are imported from England.

France.

France.

The jury on class 62, being composed of two Frenchmen, one Russian, and one Englishman, the French exhibitors have, perhaps, naturally absorbed a goodly number of the prizes. But I am bound to say that the workmanship of the French saddlers seems generally equal to that of ours, and the materials, subject to the remark I have already made about pigskins, apparently as good also. Without trials it is difficult to judge of the strength and durability of harness. Leather varies very much, according to the process and time of tanning, and I can therefore only refer to what I was able to see, not to what I am in a position positively to know. This applies equally to inventions, the merits or defects of which it was, of course, impossible to test.

M. Hermes exhibits an invention of a new noseband, which is attached to ordinary bridles, and is intended for longeing horses, without the cumbersome apparatus now in use. He exhibits also an ingenious invention of longeing harness.

M. Adeline has invented a ventilating-saddle panel, which seemed to us as useless as it must be uncomfortable to the rider. No horseman could possibly ride on such a saddle for any length of time; and a well-built saddle should afford even more ventilation to the horse's back than that invented by M. Adeline.

M. Cogent's stall is well deserving of careful and more attentive notice. This report being necessarily brief, I will not attempt to describe the new system of equipment which he proposes to introduce into the French cavalry, but will merely recommend anyone interested in the matter to purchase and examine the pamphlet sold at his stall, in which may be found a minute description of all his inventions, some of which, particularly one of military iron saddles, are extremely ingenious. How they would answer in practice cannot, as I have already observed, be determined without a trial.

M. Martin's ornamental buckles, &c., executed in enamel, are pretty, but absolutely worthless.

M. Garnier proposes doing away with the buckle of the trace altogether, it being made shorter (though it can never be made longer again) by cutting it at one end and attaching a screw-clip to it, with a ring or hook to fasten it in the usual manner to the splinter-bar. The invention is of no value—witness the parenthesis.

MM. Goirand, Planchenault, Huron, Serey, Pincon, and Falour exhibit a variety of expanding and opening collars, which are worth looking at to study more their defects than their merits. My opinion, confirmed by Captain Fenn, is that a collar, as also a saddle-tree, should be firm, not to say rigid. All harness intended to be pliable, and which gives with every motion of the horse, is apt to rub and gall him when any weight or strain is put upon it. Moreover, a collar that opens at the bottom, or even at the top, though that is safer, is liable to get opened by accident, by a blow, by a variety of ways—especially when only fastened by a pin, as in M. Planchenault's collar. The object of them is, of course, to release a horse quickly when he is down; and I have heard that they are in use in Paris and work satisfactorily, but I regret not having had an opportunity of judging for myself, and, as a rule, I feel sure that they are unsafe and unpractical.

Mr. Göschen on Harness and Saddlery.

The shape of the hames exhibited by the Compagnie Générale des Omnibus deserves attention, as showing their admirable adaptation to heavy strains.

M. Allin exhibits an ingenious, if not particularly useful, invention of a substitute for buckles. I may describe it as a boxclip, with a pin in the lid which goes through the holes in the straps when the clip is shut down, and entirely encloses the leather. It looks rather heavy, and has no special merit.

M. Trebutien exhibits some expanding and hinged stirrups.

M. Brassart exhibits a saddle with an excellent contrivance for carrying a pistol in the knee-pad, instead of in a wallet or holster.

French collars.

As a general remark, I may add that the shape of the French collars is generally very good; the brass, steel, and ornamental work quite equal in appearance to ours as a rule; and the workmanship, in most cases, excellent. In most respects the system of harness is very similar to ours, breeching being, indeed, the only point on which opinions can well differ. I do not mention breast collars, as they are condemned almost unanimously. I cannot help thinking that the shape of English saddles is rather better than that of the French; in other respects, very little if any difference can be detected.

England.

England.

There is, unfortunately, so little novelty exhibited by English manufactures that this portion of my report will be briefer than I could have wished. There exists no doubt in my mind that, if they choose, our saddlers need yield the palm to none. Material, workmanship, and shape are all excellent; but so are the French. It remains for our harness and saddlery manufacturers to take the lead in invention and design.

Mr. Bliss's collection of horse-clothing is very good, and worthy of notice. In this article, I think, we are not to be surpassed.

Mr. Blackwell's collection of patents, amongst some very beautiful harness, is deserving of attention, though a great many of his inventions are already well known, especially to Paris, as he has an agent there for the sale of them. His fomenting apparatus is extremely useful, especially for hot climates; but in all gutta-percha applications there is always the fear that, unless great care is taken, climate will affect them. Mr. Blackwell affirms that his preparations of gutta-

percha are specially made for every kind of temperature, and there is no doubt that he is a most painstaking, practical, and experienced saddler. The dumb jockeys he exhibits are of peculiar construction, having a whalebone down the centre of the gutta-percha to prevent the breaking of the latter through brittleness by frost, &c. It is an excellent though not very new invention; sections of it, as also of many other ingenious apparatus, are shown; and his stall may well demand a somewhat more lengthened notice.

Mr. Haynes's collection of saddle-trees is well worth looking at for excellence of finish and material.

I regret that the remainder of the English competitors cannot be more particularly distinguished. There are good whips, spurs, saddles, and harness exhibited, no doubt; but when I have said that I have said enough.

Africa, &c.

I may group into one class the exhibits from Africa and the East, Tunis, Morocco, Algeria, Egypt, Turkey, Bombay, and Bengal. The magnificence of some of the embroidery would probably have entitled them to a prize in another class; as saddlery, under the regulations laid down by the Imperial Commission, they can have, of course, no chance in competition. There are several specimens of European-fashioned saddles, with native embroidery, which show very good workmanship, and are signs of progress. Cawnpore harness is already much used in India. It looks well, is very cheap, and really very fairly good. The war departments of the various countries having by consent withdrawn from competition for prizes, I need only say that the English and Austrian exhibits—especially the latter—of military equipment are most deserving of attention.

Switzerland.

New collar.

There is a somewhat remarkable, and, I imagine, to most people, new invention of a collar exhibited by an officer of the Swiss Artillery well worth looking at, if the visitor can only find it. It is in one of the buildings in the park. The so-called collar is simply two pads connected by a strap at the top, and hanging almost loose on the shoulders of the horse. Herein lies its chief defect, though the exhibitor claims for it every conceivable advantage. The hames, shaped like a sword-scabbard and about as broad, slip into loops at the top and bottom of the pads, and there are a few straps connecting them, as far as I can remember, across the horse's chest. But a zealous French official prohibited me, although I displayed my badge of office, from taking a very accurate sketch, and I can only speak from a rough drawing

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I took the liberty to make during our conversation. The collar is certainly unlike any other, and the Swiss Colonel declares that it works well. But I should be inclined, except for this declaration, to doubt it. It is, however, useful as an idea, even if not as a practical collar.

Spain.

Spain.

Carries off the palm by a most magnificent set of state harness, in which material, workmanship, taste, plating, and everything seem perfect. I may add that it is an eight-horse set of harness, and took, I understand, as many years to make. But this may be a fable. Spanish leather, or rather leather from certain parts of Spain, is celebrated.

Denmark.

Denmark.

Mr. Taaning (S) a Horseus, of Jutland, exhibits a set of harness showing an ingenious principle of construction.

Italy. New invention.

Italy.

General Angelini exhibits an invention of some novelty to the general public; it consists of attaching a layer of gutta-percha tubes under the panels of saddles or the pads in harness, the object being to relieve the horse's back from dead pressure, and to interpose an elastic medium. It is also intended that the perspiration of a sweating horse should escape, so to speak, down the gutters made by the tubing. This invention is well worth looking at. Otherwise, Italian harness and saddlery are clumsy and inferior.

English Colonies.

Our colonies exhibit little deserving of notice. Nova Scotia, represented by Mr. Chisholm, shows a very neat and good set of harness, with well-made, round leather traces. The Canadian saddlery is very indifferent, both as to material and workmanship, when compared with European manufactures; indeed, all colonial exhibits cannot bear comparison with those of more advanced countries, and it is open to question how far the system of awarding prizes by actual and not comparative merit works satisfactorily.

Conclusion.

In conclusion, I must be pardoned for omitting to mention the exhibitors of several countries, who, although showing articles of good material and workmanship, cannot be said either to excel or to bring anything novel to the notice of the public.

Report on Fruits and Vegetables, Dried or Preserved.—(Class 71.)—By Robert Hogg, LL.D., F.L.S.

This class embraces all fruits and vegetables not included in class 72, and therefore contains all such as are in their natural condition, or are dried or preserved otherwise than with sugar.

Those who are interested in the study of these subjects will find throughout the various departments of the Exhibition ample opportunities of gratifying their taste and of extending their information; but it is much to be regretted that in too many cases the collections of foreign countries are not so useful and instructive as they might otherwise have been if the objects had been more generally named, and pains had been taken to furnish such information as would have enabled visitors to distinguish between the various objects exhibited. In the Portuguese and Italian departments, for example, there are immense collections of haricots, many of which are not generally known; but each variety is simply labelled "haricots," and no means are available for ascertaining the names by which to distinguish one from another. This is also particularly the case in the Algerian department, where there are collections of oranges and dried figs, not any of which are distinguished by names by which they might be identified.

Greece.

Of the fruits in their natural condition, the collection which is the most attractive and interesting will be found in the Greek department. It consists of 53 distinct varieties of oranges, many of which are of great size and beauty, while others are peculiar either from their form or colour. The cultivation of oranges having of late years become a prominent feature in English horticulture, and the facility with which they may be ripened in the cheap glass-houses now so general in the country, a description of the leading varieties in this collection will prove highly useful, as there are few, if any, of them that already exist in our gardens.

Oranges.

The different kinds of oranges are divided into, 1, sweet oranges, or those of which the St. Michael's may be taken as the type; 2, bitter oranges, called by the French bigaradier, and of which the Seville orange is an illustration; 3, lemons; 4, citrons; 5, bergamottes, or limes; 6, shaddocks, or pampelmous; and 7, forbidden fruit. Among the sweet oranges, there are the St. Michael's, the blood orange of Malta, and

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the elliptic or egg-shaped orange, all of which are familiar varieties. But there is a variety which surpasses them all, and is called China orange, or προτοκαλλίον τῆς καλλαμάτος, a large, handsome fruit, 3½ in. in diameter, of a deep orange colour in the skin, which is smooth, like that of the St Michael's. In flavour this is the finest of all. Then there are the Genoa, a variety similar to the St. Michael's but with a coarser surface, and the sweet orange, Candia, both which are very excellent varieties. There is also a variety with a singular bossed surface, from which circumstance it is called *gibbosum*. The small flat variety, which we call in the fruiterers' shops in London the Tangierene, is here called the Manderine, or Μανδαρινιον.

There is a great variety of the bigaradiers, or bitter oranges, many of which are singularly curious and ornamental. Of these the most striking are one called Κρητικο νερανζι, in Chios; Φακουρα, in Candy; and Φραπονερανζο, in Peloponnesus. It is from 4 in. to 6 in. in diameter, of a rich deep orange colour, and has a very rough, warted surface. The other is called *umbilicata*, and is also of large size, being 3½ in. to 4 in. in diameter, of the flat shape of the manderine, and with the stalk and the apex deeply indented. A very beautiful variety of this class is a medium-sized fruit, finely striped, some being of a pale lemon colour with deep orange longitudinal bands, and others of a deep orange ground with pale lemon-coloured stripes. This is called "Hermaphrodite de Genois." There is a curious variety called *corniculata*, or horned orange, from horns growing out all round the upper part of the fruit. These horns are the points of the carpels, or "the quarters," of the fruit which have become detached and grown out, and departing from the normal form assume this singular appearance. There is a large fruit which, though it belongs to the class of bitter oranges, has a sweet flesh, and is called Γλυκονερανζια and Νερανζια της Κως; but one of the most remarkable is a very large pear-shaped variety, 6 in. to 8 in. long, with a rough, warted surface and uneven outline. It is called Bigaradier à gros fruit.

Lemons.

Of lemons there are not so many varieties; and those most worthy of notice are the Greek lemon Σκαραμανκας της καρουστου, an immense variety, 4½ in. to 6 in. long; the "Deux Mammelons," also a large oval variety, with two great nipples, one at each end. The lemonier-bigarade is a hybrid between a lemon and a bitter orange, some being nearly round with an orange colour, while others are oval and of a pale lemon colour. There is a small egg-shaped variety, which has red flesh and variegated leaves, and this

is called λεμονι κοκκινον. The Naples lemon is a very small variety, about the size of a pigeon's egg, and is principally used for confitures. Then there is a sweet lemon, which is about the size of an ordinary lemon, but with a sweet flesh, and very agreeable.

The citron de leonide is a large, rough, warted variety, and is the only one of that kind exhibited.

Limes. The bergamottes or limes are more numerous. They are of the colour of a pale lemon, and rounder than that fruit usually is. The most remarkable in this class are two kinds of sweet lime, one called Ζαχαρολεμενον, which is a small, round, and rather oblate fruit, lemon-coloured, and with a large nipple at the end like a lemon; and the other Γλυκολεμενον, which is quite round, and of a deeper and more orange colour, and with not so large a nipple. The common bergamotte is that which furnishes the perfume known by that name, and which forms one of the principle ingredients in eau de cologne and other compounds of that class. There is also the aromatic lime of Chio, a small fruit of the size and shape of the Manderine orange, and has the same aromatic odour which that variety has, but is distinguished from it by being of a pale lemon colour and having an acid flesh. There are several specimens of the shaddock and the forbidden fruit, the latter being distinguished from the former in being pear-shaped, the former being round.

Oranges. Oranges occur also in the Algerian and Italian departments; but, as they are not distinguished either by names or numbers, no reference can be made to them. Some of the specimens are very good, and among them may be observed a large fingered citron, the development of which is on the same principle as the horned orange, already noticed in the Greek department.

Dates. The dates in the Algerian department will form a good subject of study, particularly a collection of 14 varieties in boxes, all carefully named, and which come from the pepinières of Biskra. These vary in size, form, and colour, the last character varying from a pale brownish cream colour to an almost black. The variety usually met with in the shops of Britain attached to the rachis or stalk, in strings, is called "Beglet nour de Souf." These are generally covered with a saccharine glaze, as is also another and a much larger variety, also common in the grocers' shops and not attached to the stalks, called "Stima de Biskra." From the Algerian Government garden of acclimatization there are no less than 55 varieties; and from the "pepinières de Biskra" there is another collection of 54 varieties. These, for the most part, are small, dry, and farinaceous,

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many of them not larger than an olive; and it is these that form the staple food of the Arab population. All these varieties, it may be well to know, are varieties of Phœnix dactylifera, which is as fertile in producing varieties of fruit as our apple and pear are. In the Egyptian department there are also many varieties of dates, among which will be observed two varieties which form the large dry-skinned dates of our shops. These are called "Dattes de Dongolah" and "Dattes Hamry de Belbeis et Salanieh." There is also a variety which has no stone, and is called "sans noyau;" and, if imported into commerce, would doubtless prove acceptable from that circumstance.

Dried figs.

Dried figs are an important feature in the Algerian, the Italian, the Portuguese, and the Turkish departments. Here, again, it is much to be regretted that no names or numbers are attached to the different varieties, so as to afford some index as to the sorts that are usually employed for drying; and the persons in charge of these departments are perfectly ignorant on the subject. It will, therefore, be permissible only to observe the various forms in which they are made up. Some of these are sufficiently curious, as, for example, those impaled on wooden skewers, like larks for the spit. Some are pressed into shallow frames made of Arundo donax; others are squeezed in masses, like thick sections of a Stilton cheese; while others are made to resemble squares of Windsor soap or German sausages. There is a mode of making up figs exhibited in bottles, which consists in cutting two fruits longitudinally as far as the stalk, then spreading them out and applying the two inner surfaces to each other; in this form the fruit is dried, and in drying the two surfaces adhere, and they are then mounted on skewers or strung on a cord. The same fancies in the way of packing may be observed in the other collections; but in no case are there any exhibitions of those large, handsome figs which are to be obtained in the shops of the United Kingdom.

Almonds.

Almonds are well represented in the Italian, Algerian, and Portuguese departments. The Jordan almonds may there be seen under the names of "Sultana" and "Della Dama;" while the other sweet and bitter kernelled varieties will be found under their various names.

Other dried or natural fruits.

The other kinds of dried or natural fruits that are exhibited are dried apples, raisins, mulberries, pistachios, and pignons, the latter being the kernel of the seed of the stone pine (Pinus pinea). In most of these countries the jujube is also shown. This is sold in Govent Garden market under the name of "japonicas," and with what reason it is impossible

to tell, it being the fruit of the Zizyphus vulgaris, a tree extensively grown in the south of Europe, where its fruit is dried, and serves as a winter dessert. It is from this fruit that the confection called "jujubes" receives its name, and which should consist of gum arabic and sugar dissolved in the decoction of this fruit, and then evaporated to its proper consistence; but, as made in this country, the fruit forms no part of the ingredient. In the Algerian department may be seen specimens of the lotos of the ancient Lotophagi, and which is the fruit of Zizyphus lotus; they are about the size of a cherry, and of a purplish colour. In the interior of Africa these are pounded in a mortar and made into cakes, which are eaten by the natives.

Preserved fruits.

Preserved Fruits.—In the Algerian collection are good specimens of the fruit of Carica papaya, or papaw. This, when young, is used for sauce; and water impregnated with the juice acquires the property of rendering all sorts of meat steeped in it tender. The flesh of old fowls or other animals becomes tender when fed on the leaves and fruit, and joints of meat are prepared for cooking by being hung in the upper branches of the tree. There are also examples of sechium edule, or choko, which is now considerably grown in Algeria as a substitute for the potato. The only other fruits that are preserved are manderine oranges, peaches, and loquats, or Japanese medlars. In the Dutch department there are excellent examples of apricots, peaches, plums, cherries, and mulberries. Similar collections may be seen in the Bavarian department, and a very extensive collection is sent by the United States of America, consisting of pineapples, peaches, cherries, gooseberries, red and yellow tomatoes, plums, grapes, pears, Siberian crab, Lawton raspberries, barberries, whortleberries, quince, currants, and sweet corn. These are all preserved in spirit. Russia exhibits dried apples, pears, prunes, and melons cut in slices.

Report on Fermented Drinks (Wines, Spirits, &c.)—(Class 73.)—By E. L. Beckwith, Esq.

Mr. Beckwith on Fermented Drinks.

In submitting the following report on the wines, spirits, ales, cider, and vinegar exhibited at the Exposition Universelle, Paris, I deem it my duty to preface the report itself by a few observations germane to the general subject.*

Preliminary remarks.

I must point out, in the first place, that were I to confine myself to recording any material progress which has taken place since 1862, the period of the last Exhibition, in the mode of culture or in the treatment and manufacture of the products exhibited, my labours would be very light, for on these heads these is little or nothing of novelty or importance to communicate. I gather, too, from the instructions with which I have been furnished that it is not your wish that I should prepare a thoroughly exhaustive report on wines, &c., as a document of that nature will probably be furnished by the Imperial Commission, at the termination of the Exhibition. I conceive, therefore, that I shall be best carrying out your wishes and intentions in adopting the following plan. I propose to give a generalised sketch of the trade in fermented drinks, more especially of that portion represented by wines, with a view of calling the attention of the public at large to a topic to which the conditions of modern civilisation are giving every year greater importance, and I shall endeavour to awaken an interest in the minds of those who will read this paper, by giving a brief account of the sources from which we have hitherto drawn our supplies of wine; of their properties, peculiarities, and characteristics; of their highest and lowest prices; and of the average quantities produced. Nor, while endeavouring to supply a succinct and comprehensive view of my subject, which might be of interest and service to the casual visitor to the Exhibition itself, shall I cease to bear in mind your recommendations to avail myself of the actual occasion in order to consider the future of the wine trade in England:—how it may best be promoted and most favourably developed;

* The importance of the department of "Fermented Liquors" in the Exhibition may be estimated by the simple fact that there are 7,700 exhibitors, and 22,000 samples shown.

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and how, ultimately, its steady and judicious extension may become an instrument for good, morally, physically, and commercially.

France.

France.

In the cultivation of the vine, and in the production and manufacture of wines, France has long stood pre-eminent. I naturally, then, elect to place the wine growths of the French empire first on my list; nor shall I be accused, it is to be hoped, of undue partiality if (as a subject for discussion) I give the *pas* to the universally known and as universally admired champagne.

Champagne.

The distinctive appearance and flavour of this wine are known to all the world. Technically, its characteristics are great "elegance" and fruitiness, without excessive sweetness. Its efferverscence should not be too rapid, and should form corruscating bubbles rather than a smooth froth on the surface. The *bouquet* should be suggestive rather of a delicate dryness than of a cloying sweetness. It is erroneous to assume that champagne does not require keeping after being landed in England. It may not be necessary to lay it by for any very considerable period; yet it is certainly susceptible of ripening; and I know few wines that show more improvement after the repose of one or two years. This opinion will, I think, be shared by those who have been fortunate enough to taste lately champagne of the vintage of 1857, landed in England, say, in 1861. It should not be retained in cases, but the bottles should be kept in a cool place, with good ventilation.

Designations.

Champagne is known by the names of the houses by whom it is manufactured, rather than by the vineyards where it is grown. There are some "growths," however, which are deservedly famous; such as those of Ay, Verzenay, and Boazy. Of Sillery—the title of another growth, and which is familiar to most English ears—there is little or none genuine. Most of the wine is made from red grapes; but some houses mix the juice of white grapes with the red, with a view of imparting additional flavour to it, white grapes being, as a rule, more aromatic than red.

Divergence of opinion as to wine.

Before attempting any definition in detail of the peculiar properties of wines as they regard our health, I may observe that a great dissimilarity of opinion prevails on this point. The dicta of the illustrious Liebig on wines are well known, but they have not been left uncontested; and I may mention, as an item of personal experience, that, on

consulting Dr. Spies, of Frankfort, on the subject, he informed me, in answer to numerous and carefully prepared questions and suggestions, that after many years' study and experience he could only arrive, as a result, at one conclusion—that "all good wine was good, and "all bad wine bad." The question obviously remains, What is good, and what is bad?—a query as difficult to resolve as what is wit or what is taste, although any person of cultivated intelligence can pronounce, without much danger of falling into error, as to what is tasteful and what witty.

Fermentation.

To return to champagne. The French (who might certainly be assumed the fairest critics of their own staple) and the majority of Continental nations—to which must be added the Americans—prefer a very sweet champagne. In some cases, as much as one-fifth of the whole volume of the wine should be, to suite the Continental taste, simply syrup. In England, on the contrary, champagne containing one-tenth of pure saccharine matter is considered sweet; and many Englishmen would be better pleased if the per-centage amounted only to one-twelfth. A moderated sweetness I hold to be more wholesome; and an aversion to excess of saccharine is, I think, indicative of good taste; but it is exceedingly difficult to judge champagne by the standard of other wines. It is, to a great extent, "non-natural," and a manufactured and too often sophisticated article. Natural wine should have gone through the entire ordeal of fermentation; but the very fact of the effervescence of champagne proves that the fermentation has still to be completed; and this transition state, although rendering it very agreeable, detracts from its wholesomeness. It may here be remarked that this state of effervescence or incomplete fermentation is created in Germany by a process different from that resorted to in France. In the latter country the wine is bottled *before* the natural fermentation is accomplished, the time for bottling being in the spring following the vintage. In Germany the wine is allowed to ferment to the fullest extent. How much or how little sugar is required to augment the natural sweetness of the wine having been afterwards ascertained, the requisite quantity of syrup then is added to each bottle, and the wine is then placed in a heated room and forced into a further fermentation. Which of these two modes should be considered the least objectionable I must leave others to determine. It is a very significant fact touching the quality of the syrup introduced into champagne, that the

Addition of syrup.

Alcoholisation of champagne for the English market.

Mr. Beckwith on Fermented Drinks.

sweetening for wine intended for the English market is prepared with brandy, while that for France and the Continent is made with wine. The former, naturally, is of increased strength; but this increase is at the expense of the bouquet, and is, very probably, injurious to digestion. I have been able to compare, on the spot, at Rheims, the champagnes destined for the different markets. That for England was almost destitute of the subtle and delicate flavour of the French, at the same time displaying an augmentation of coarse and unwholesome strength. I am reluctant to believe that the taste of the classes who in England habitually drink champagne is so vitiated as to induce a preference for a fiery and over alcoholised product. Nay, I rather incline to think that, were the finer and gentler article more extensively introduced, it would be more largely patronised than the "fortified" wine; but, rightly or wrongly, we have gained a reputation for addictedness to heady and potent drinks, and a bad name once acquired is with difficulty lost.

Medicinal qualities of champagne.

The medicinal qualities of champagne I must leave to be dilated upon by the faculty. There can be no doubt, however, that its value as a medicine is year after year more largely acknowledged by medical men. It often supersedes —or, at least, supplements—brandy in keeping up the system in cases of extreme exhaustion. It is frequently prescribed in acute sea-sickness; and I can personally vouch for its wonderfully revivifying powers and its faculty of retention on the stomach when no other liquid could be retained. To its general exhilarating properties, to its gentle stimulus, to the innocent cheerfulness it promotes, all civilized mankind can bear testimony; but these remarks apply strictly and solely to good champagne. Than bad champagne nothing can possibly be imagined more injurious to health—it is poison.

Proper time of drinking.

Our English habits and customs differ, again, from those of France as to the time and mode of drinking champagne. The French usually take it excessively iced and towards the end of dinner; while in England it is *not* preferably drunk in a state of coolness approaching frigidity, and it is served at the commencement or towards the middle of the repast. I conceive that we are in the right as to the conditions of temperature in which we take champagne, but that we grossly err in imbibing it at the beginning of our meals; for, after partaking of champagne, it becomes extremely difficult, if not impossible, to do justice to more natural wines.

The price of wines in the champagne district, prior to being bottled and when quite young, varies from 1*s.* 2*d.* to 4*s.* 6*d.* per gallon, and, when bottled, from 1*s.* 5*d.* to 2*s.* 6*d.* per bottle.*

Prices and quantities.

The average quantity produced is fifty-two millions of gallons.

Burgundy.

Arriving next at the consideration of burgundy, it may be useful to remember that the principal vineyards in this splendid district are Romanée Conti, Clos-Vougeot, Richebourg, Chambertin (which is said to have been the favourite wine of Napoleon I.), La Tache, Corton, Beaune, Volnay, and Pommard. Of white Burgundy wines we have Mont Rachet (which some critics declare to be the finest of white French wines), Meursaûlt, and, lastly, Chablis, which is grown more to the north, in the department of the Yonne. Nor must I omit to name the excellent Moulin-à-Vent, a very delicate wine from the department of the Saône-et-Loire. There are also Macon and Beaujolais, both sound and "honest" wines, although without much distinctive character.

Designations.

Characteristics.

To describe all the peculiarities of burgundy would occupy far too much time, and by far exceed the space to which I am confined; nor do I think it would serve any useful purpose to enumerate the multitudinous divisions and subdivisions adopted by the French in their classification of this favourite wine. "Extremes meet," and we find the passion of the French for infinite division met at the opposite extreme by the well-nigh barbarous simplicity of the Portuguese, who give the generic name of "port" to all their wines. I may remark, however, that, although apparently coarser—that is to say, more robust than the wines of Bourdeaux—the growths of Burgundy are, indeed, very delicate, and will *not* bear sea voyages without suffering deterioration in quality. So, at least, say the French.

Unjust charges brought againt Burgundy.

Burgundy in former years acquired an ill-name, which I cannot think deserved. It has been declared heady, fiery, gouty, and apopletic. Recently, however, wine-drinkers in

* As the prices I shall name in this report may possibly convey a wrong impression, I think it advisable to explain at the outset that wine, when sold at these quotations, is still on its first lees, and the cost of package is not included, consequently there exists but little analogy between the cost as it then appears and that to which we, as consumers, are accustomed. Nor do I consider it within my province to provoke any such comparison, my duty being, I undertake it, solely to estimate the relative prices of the various exhibiting countries and districts, and for that purpose prime cost is the fairest test. I shall purposely avoid all allusion to quotation of wine when ready for consumption, for unless accompanied by full explanations I know of no more uncertain and fallible guide than a bare quotation of figures.

Mr. Beckwith on Fermented Drinks.

England seem to have awakened to the fact that Burgundy —like salmon at a Greenwich dinner—has been made the scapegoat for many sins, which should not with justice be laid at its door. I am satisfied that were burgundy taken on its merits and treated with fairness, were it imbibed in moderation *at* dinner and not *after*, its unpleasant repute as a heater of the blood and a provoker of gout and plethora would very soon disappear. I admit it cannot be taken with so much freedom as claret; but I am of opinion that the public would act wisely in occasionally varying their orders, and in requesting their wine merchants to alternate the light claret wines with cheap and wholesome burgundy. They will find it "stouter," and possessing a more aromatic flavour. As regards the medium and higher qualities of burgundy, I cannot conscientiously place them in the exalted position which some would confer on them. Without wishing to decry their powerful bouquet, their full, ripe, and rich body, their beautiful colour, and their stimulating and invigorating qualities, it is but just to observe that they cannot with safety be quaffed from "goblets;" that they are more "serious" than "gay," and "clever" rather than "cheerful" companions.

Prices and quantities.

The lowest price in the Burgundy district for wines at the vintage is about 7*d.* per gallon. The highest qualities sometimes reach 17*s.*

The average annual quantity grown is 75,000,000 of gallons.

Claret or Bordeaux wine.

Claret, or, as it is termed on the Continent, "Vin de Bordeaux," is, of all French wines, the best known in England; and its high repute is assuredly deserved. It is grown in the department of the Gironde. The wines are divided very minutely into different classes; and it is a proof of how carefully and faithfully the division was originally made that, although, in some few cases (owing to the care taken by the proprietor in the cultivation of his vines), the boundary lines have been partially obliterated, these boundaries are still, in the majority of instances, perfectly well defined and easy of recognition. It is scarcely necessary to give the names of all the classed Bordeaux wines. There are many very excellent growths which are not even classed at all; but I may mention cursorily such wines of the first class as Château Margaux, Château Lafite (and not Lafitte, as it is usually spelt), Château Latour, and Haut Brion; of the second class, Mouton, Leoville, Rausan, La Rose, and Cos d'Estournel; of the third class, Giscours, Lagrange, Langoa, Boyd Cantenac; of the fourth class,

Designations.

St. Pierre, Duluc, Duhard; of the fifth class, Grand Puy, Cantemerle, Cos Labory, and Batailley.

Erroneous ideas about claret.

It is not so very long since the difficulty in obtaining Château Margaux and Chateau Lafite was attributed to the so-called fact of the produce of the vines being sold many years in advance to various European potentates. The Emperor of the French, the Emperor of Russia, the King of Prussia, the Pope, &c., were all represented as "accapareurs" of high-class clarets. Analogous stories are related with reference to Havannah cigars; but, as regards the wine trade I believe all these "forestalling" tales to be fables. Any, person, however private or obscure he may be, can, if he have a sufficient command of money, buy up every year, during the vintage, as much first-class claret as he desires. That it may not be very easy to obtain, at a later period, a sufficient quantity of the *first growths* in a *genuine state*, I readily admit; and without wishing to assert anything which might cause offence to the merchant princes of Bordeaux, it is notorious that there is openly sold every year at least one hundred times as much Château Lafite and Château Margaux as is actually produced. I believe this to be much more the result of vicious habit than of a desire to defraud; yet very many highly respectable firms, whose integrity is otherwise unimpeachable, and who would scorn to descend to the small chicaneries of trade, do not scruple to sell as Château Lafite and Château Margaux wines which they know perfectly well do *not* proceed from those vineyards. They may plead that in this they are only following immemorial custom; but the custom is, I think, extremely reprehensible, and should be abandoned. Far better would it be if the wine merchants of Bordeaux, following the example of their brethren at Oporto and Cadiz, completely sunk the individuality of the vineyards, and trusted to the good repute, for honesty and rectitude of purpose, of their own names. The public who are now suffered to wander in a very labyrinth of deceit would very soon discover and fix upon for patronage the best shippers, whose names would become "household words." Nor would this change of system fail to redound to the advantage of the shipper himself. He would be unfettered in his choice of growths. He would have to look only to quality; he could buy cheaper, and he could even profitably sell at a much lower rate, wines of a much better quality than are now in the market. As matters are managed at present the product of some vineyards is just as absurdly over-estimated as that of others is unjustly under-valued.

Mr. Beckwith on Fermented Drinks.

Properties and characteristics.

The properties and peculiarities of claret are too numerous and too elaborate to be particularized in a report of which brevity is an essential. Those who have lately tasted a fine '48 need no other guide or illustration as to what is almost "perfect" in wine. Those who are not connoisseurs in claret would not easily be enabled, from any description, to realise an idea of its beauties. Its colour, for instance, is difficult (even in these days of new hues) of definition. It is, in fact, "claret colour" and nothing else. To define an odour is a task equally if not more onerous, and I can think of nothing closer to convey a notion of the bouquet of claret than a combination of raspberries and violets. The "body" is round, fruity, and soft as satin; and all the components are so happily blended into an homogeneous whole that, during the "degustation" of good claret all the senses seem to be simultaneously gratified. It is not, however, merely as a sybaritic luxury that I would wish claret to be known. Higher praise may be accorded to it as one of the most refreshing, the most cooling, and the most invigorating of beverages, easy of digestion, and even assisting that process; a mildly stimulating and inebriating drink, in every way fulfilling its Scriptural character as a "wine that maketh glad the heart of man."

Prices and qualities.

Commencing at as low a price as 1*s.* per gallon, the growths, in their crude state, may rule as high as 25*s.*

Eighty-five millions of gallons are grown in this district, which also includes the white wines of Sauterne. Château Yquem is pre-eminently the best of these, and is noticeable in good years for its exquisitely dulcet and delicate flavour. Some of the other growths, such as Latour Blanche, are, to my taste, almost as excellent, and are even more wholesome and better suited to English tastes. They are dryer, and have equal flavour and body. The lighter wines of the Grave district are very "elegant," but are scarcely stout enough to become general favourites in England.

Vins d'Est.

Vins d'Est.—Under this head I include all the wines grown in the department of the Haut Rhin, and along the eastern boundaries of France to the department of the Var. There are no growths bearing any particular names, nor do I find any of very special excellence. My experience of them at Strasbourg and elsewhere is that they are "hungry," thin, and ungenerous wines. Those of the Jura possess considerable bouquet, not unlike that of fine manzanilla, but their body is poor. I think, however, that were greater care bestowed upon them, some of the vins d'est

Properties.

might turn out good wines. I have been shown some of the year 1774, and some of 1811, both still quite sound. Mr. Beckwith on Fermented Drinks.

The lowest price is about 8*d.* per gallon, and the highest, not including the "straw" wine, is about 3*s.* Price.

In these districts there is grown a considerable quantity of vin de paille, or "straw" wine. As it must be considered strictly as a vin de liqueur or dessert wine, I should scarcely deem it worthy of mention here, but for the peculiar mode of its manufacture. The grapes are allowed to remain on the vines a long time after they are ripe. They are then gathered and exposed for a certain period on straw, whence the name of the wine, until almost dry. They are then pressed and fermented in the ordinary manner; but in consequence of their long exposure they are, of course, very sweet, and will keep many years. Our home-made raisin wine is not unlike the vin de paille. Straw wine.

The quantity produced in this district is one hundred and twenty-seven million gallons. Quantity.

The Vins du Midi embrace the wines grown in all the districts from the department of the Gard to that of the Eastern Pyrenees. Vins du Midi.

It is especially in this region that the "manufacture" and "imitation" of other wines is carried on. A very large export business is done at Cette, in Roussillon and other growths. The English consumer is not allowed to taste them in their pure and natural state; but they are first highly alcoholised, and then sent out under the spurious names of "French" port and sherry. Thus, injustice is done both to the Roussillon wines themselves and to those which they profess to imitate. The excuse urged for loading them with alcohol is that unless brandy be added to them they will not bear the sea voyage; but as large quantities of Roussillon are exported in a perfectly natural state to the north of Europe, I hold that with proper care in the earlier stages of preparation this wine might be brought to England without any perceptible injury being inflicted upon it. Nor can I doubt that were such an exportation of "undoctored" Roussillon found practicable, a very wide and profitable field of enterprise would be opened to the English wine merchant. Luscious, powerful, and of a fine colour, the wines of the Herault, of St. George, of Montpellier, &c. are eminently suitable to our moist climate, and when mingled with water they form a smooth, sweet, and pleasant drink. Imitation of wines. Roussillon.

In this division, too, are manufactured the major part of the vins de liqueur of France. Many of them are nearly, Vins de liqueur.

Mr. Beckwith on Fermented Drinks.

if not quite, as good as the absurdly over-estimated "Imperial" Tokay, but their prices are very much lower.

Quantity and price.

The quantity of Vins du Midi produced is very considerable — nearly one hundred and twenty-six millions of gallons.

The price begins as low as 6*d.* per gallon.

Vins de Table.

Vins de Table.—These embrace the produce of the Rhône, Gers, Drône, Loire, Seine-et-Oise, &c.

I employ the generic term of "Vins de Table" not as suggestive of any marked inferiority in these wines, but simply as contradistinctive to the Vins de Liqueurs or dessert wines. And under this name of "Vins de Table" the remaining wines of France may be fairly embodied.

Various growths.

Among them are growths of great excellence. Some, indeed, might be classed as "very fine," including, as they do, the well-known Ermitage or Hermitage, as it is called in England. This vineyard is situated near Tain, and, I infer, derives its name from the estate on which it is grown having been first cultivated by the monks. Many vineyards throughout Europe owe their origin to a similar cause; but there is no need to jump to the conclusion that the monks of old were overweeningly attached to the good things of this life. The real reason may have been that the earliest monks were hermits and anchorites, and that their cells were generally built in sterile and rocky places where little could grow, and certainly nothing vegetable could flourish save the vine. White and red Hermitage are both admirable wines. Crose has also many good qualities; and in good seasons, there are few wines more delicious than Côte Rôtie. I may also mention the wine called Château Neuf du Pape, the various growths near Nismes and St. Peray. Many of these are eminently drinkable, although they rarely possess any extraordinary fragrance of bouquet. They are, however, extremely enjoyable and health-giving.

Designations.

Quantity and price.

The quantity of vins de table produced is enormous. The average may be set down at three hundred and sixty-five millions of gallons. The price varies from 5*d.* to 8*s.* per gallon.

Aggregate of wine production in France.

The importance, nay, the supremacy, of France as a wine-growing country may be estimated when we arrive at the aggregate of all the average quantities made. It amounts to no less than eight hundred and thirty-one millions of gallons, exclusive of one hundred and sixty-five millions of gallons annually distilled into brandy.

Germany.

Germany.

Admitting that there cannot possibly be any question as to the good qualities of the wines of this country, especially as regards its higher growths, I do not attribute quite the same importance to German wines as to those of certain other wine-producing districts, for the reason that no appreciable addition is likely to be made to its productive powers; and again from the fact that the smaller and cheaper wines of Germany are neither so suitable, so cheap, nor so good as those with which other countries supply us. Rhine wines, however, merit more than a mere passing remark, on account of the great skill and industry displayed in their production, and the high state of perfection to which the Germans have brought their vineyards. I have no hesitation in stating, as my deliberate opinion, that were one medal only to be awarded as a recompense to the exhibitor of the finest possible wine, illustrative of what nature, aided by industry and improved by science can effect, that medal should at once be awarded to Johannesberger. It is the Château Margaux of the Rhine, as the Steinberg is its Lafite. The best of the Rhine wines are all white. There is a red species, called Assmannshausen; but I have not met with any very remarkable specimens of it. The only red wine which I deem deserving of high commendation is the old Steinwein, grown near Wurtzberg; and this is excellent, both in body and flavour.

Wines of the Rhine.

Johannesberger.

That the wines of the Rhine and the Moselle are more heating than those of France is indubitable. The fact is due, I apprehend, to the presence of more aromatic properties in the former than in the latter.

Moselle.

The capacity for durability of Rhine wines is astonishing. I tasted some last year, still in the cask, made in the year 1616, and which was even then perfectly sound.

Durability of Rhine wines.

It may not be out of place to warn purchasers who pay a very high price for Johannesberg that there is a marked difference between the qualities; Johannesberg Schloss is one wine, Johannesberg district is another. Still although the wine grown at the castle is incomparably the finest, and, in good years, exquisitely delicious, even its produce is occasionally poor. The same remark applies to Margaux clarets; those of the Château Margaux being of the very highest class, while the district Margaux—an area of much wider extent—produces both good and bad wines.

Qualities of Johannesberg.

Mr. Beckwith on Fermented Drinks.

Quantities and price.

About forty-five millions of gallons are annually produced in the Zollverein, and the price varies between 2*s.* and 50*s.* per gallon.

Austria and Hungary.

Austria and Hungary.

I have much gratification in drawing the attention of my countrymen to the wines of the Austrian Empire, not only on account of their quality — in which, albeit excellent, there is still much room for improvement—but because I think that for our own sakes, as well as for reasons of international policy, we should do our best to welcome and encourage all *new* producers of wine. I use "new" in a relative sense. The vineyards of Austria may be as ancient as any in Europe, but it has only been within a very recent period that these wines—with the exception of tokay, which is a mere exotic luxury—have become known in England.

Characteristics.

The peculiarity of Austrian wines consists—not as in France, where there are scarcely any two growths alike—in their widespread and almost unvarying similarity—a similarity so monotonous that at last it nauseates. As yet the cultivation of the vine in Austria, if such a figure of speech be permissible, is a pure democracy. There are no Imperial or Royal wines; for here, as I have already hinted, I cannot accord sovereign rights to tokay. It is simply a *vin de dessert,* or to be taken with cake at a morning call.

Tokay.

Vöslau wines.

The best Austrian white wine is, in my opinion, that grown at the Gumpoldskirchen, between Vienna and the village of Baden-bei-Wien; and the red wines of Vöslau are certainly equal, if not superior, to any other red wines which Austria proper can produce; whilst Hungary is best represented by the rich and high flavoured red wine of Ofen (Buda).

Quantities and prices.

The quantity annually grown, including the product of the kingdom of Hungary, is five hundred millions of gallons. The price varies from 6*d.* to 2*s.* 6*d.* per gallon.

Deceptions in Hungarian wines.

I should scarcely be fulfilling my duty while commenting on the wines of the Austrian Empire where I not to enter a protest against the inordinately high prices demanded in some cases for Hungarian wines in England. High-sounding titles are given to wines whose original producers were entirely ignorant of their illustrious paternity. Such a wine is "cabinet;" such another is "own grown;" and, on the principle of "fine feathers making fine birds," a correspondingly high price is asked. I can only say that

no such dignified growths are known in the country where they are said to be grown. The price of wine in Hungary is throughout exceedingly moderate; and it is really an insult to the intelligence of the English people thus to trifle with them. There is little to wonder at, seeing with what facility we are duped, in our character for good taste being held so cheap by foreign nations.

Italy.

Italy.

The Italian peninsula should, of all European countries, from its admirable position and unequalled conditions of climate, be the most favourable to the cultivation of the vine, and Italy should have gained long since, as a wine-growing country, a renown as permanent and as profitable as that enjoyed by France. I need scarcely say that I am referring in this regard strictly to modern times; for, were even the most transient survey taken of the fascinating field of antiquity, we should see that the Campanian, the Umbrian, and the Tuscan wines were deservedly famous centuries before the vineyards of Gaul were ever heard of; and that they retained their celebrity for a lengthy period, during which, although the Gallic wines were known, they were despised as poor and spiritless.

Advantages of geographical position and climate.

The wines of modern Italy are said to be deficient in "staying" qualities, and this has been dwelt upon as an argument for the frequent dissonance of theory with fact. I would submit, however, that the criticisms passed on modern Italian wines might be modified did we more frequently take into consideration the carelessness, and sometimes almost total neglect, in which the vines are reared. Indeed, the sight of an Italian vineyard and an Italian vintage may awaken a sensation of astonishment that even such good wine as is really made should come out of such a place and under such difficulties. The vines are generally planted on level plains, and are intermingled with other and the most strangely assorted vegetable produce, whereby they are deprived of their full sustenance. They are trained from tree to tree in wreaths, most picturesque to look upon, and thus obtain only the downward rays of the sun, losing those which, striking the earth, are refracted upwards—a double advantage which is secured to low-trained vines planted on slopes and terraces. In fine, they never become so well or so evenly ripened as the wines of France and Germany.

Properties and characteristics.

Mode of culture.

Those who are acquainted with the Ghem and Buanza wines of Lombardy; with the Broglio, the Chianti, and

Designations.

Mr. Beckwith on Fermented Drinks.

the Monte-pulciano of Tuscany; with the Capri of Naples, and the Barolo of Piedmont, will gladly testify to the excellence of these and many other Italian growths, possessing, as they do, good colour, purity, flavour, and sufficient fruitiness and body. Could the Italian agriculturist only be encouraged—in lieu of being discouraged, as he now is, by ruinous fiscal imposts—to grow good instead of inferior wines, the wine product of Italy would, I have not the slightest doubt, be gladly welcomed and highly esteemed in England. I have not relied solely on my own personal experience and observation in adducing this opinion, and I am glad to strengthen it with the authority of the Marchese General Emile Bertone di Sambuy, President of the Agricultural Association of Turin, by whom I am assured that Italian wines could easily be made to bear transport by sea without the use of alcohol; and he is willing at any time to submit to our Board of Trade two samples of every kind of Italian wine so prepared.

Probable improvement in production.

Sicilian wines.

In the Italian wines are included those of Sicily; and I may remark, *en passant*, that the wine drunk in Italy under the name of marsala differs very widely, both as to strength and flavour, from that to which we have been accustomed in England.

Quantities and prices.

I am unable to furnish any definite information as to the annual yield of the Italian vineyards or the price of wines. The consolidation of the kingdom of Italy has been of too recent a date for this department of agricultural statistics to be accurately edited. The prices, I may nevertheless observe, rule very low, and the quantity is capable of being increased to an indefinite extent.

Spain.

Spain.

Those who have supposed that in drinking sherry they had become conversant with the wines of Spain must be prepared for a complete revolution in their pre-conceived ideas when they visit the Exhibition of 1867; for by far the greater number of wine exhibitors come from parts of the peninsula very remote indeed from the sherry of Xeres districts. The region in which sherry properly so called is produced is situated not far from the port of Cadiz, and is about 12 miles square; but there can be no doubt that vast quantities of wines from other districts are brought in for the purpose of mixing with the genuine product, the normal price of the latter being very much in advance of that of the ordinary wines.

Locality of production of sherry.

Here, as in Champagne, the wine is known by the name of the shippers, and not by that of the vineyard. This plan I have already stated to be the most beneficial to the consumer; for, independently of the deservedly high character of the merchants of Cadiz and Puerta Santa Maria, their brands bear so high and almost so historical a value that they dare not attach them to an inferior article, and they thus hold themselves morally responsible for every cask of wine that leaves their warehouses. It is to be regretted, however, for the sake of the shippers themselves, that they should indifferently denominate all the white wines of Spain as "sherry," for it cannot be doubted that when the facilities of communication increase, and when locomotion is more general in Spain—as it now promises every day to become—we shall begin eagerly to seek not only the wines of Andalusia, but those of Valentia and Granada to the south, and of Catalonia and the Castiles to the north. There is not the slightest reason why as many varieties of Spanish, as of French or Italian, wines should not be brought to light; but at present the resources of the Spanish vineyards are "things of Spain," of an equally cloudy nature to most things relating to this "terra incognita" of European civilization. That French wines should be broadly divided into burgundies and clarets, although there may be 200 varieties of vin de Bourgogne, and as many, or more, of vin de Bordeaux, is perfectly feasible. The difference between them is as marked as that which exists between satin and velvet; but to call by one invariable title the entire produce of an entire country of vast extent, and whose climate varies according to its conformation from Siberian asperity to African sultriness, is most unjust, and even more provocative of confusion than that practice, which I have already reprehended, of subdividing the growths of a district into well nigh infinitesimal classes.

Designations.

Errors in nomenclature.

The quantities of wines shipped from Cadiz can easily be ascertained by reference to the Board of Trade returns, but we are utterly without information as to the aggregate yield of the Spanish vineyards. This yield is, however, known to be enormous; and the bounty of nature in this respect is the more remarkable when we bear in mind the extreme temperance of the Spanish people, who, except the lower classes in a few seaports, are all but as abstemious as Mohammedans. The abundance of the *vino del pias,* or common wine of the country, may be judged from the fact that (casks and cooperage being expensive) when new wine is required to be put into the cask that of

Quantities.

Mr. Beckwith on Fermented Drinks.

the preceding year is occasionally poured down the gutters of a town, and that—notably at Val de Penas—common wine is sometimes used instead of water for mixing with mortar.

Characteristics.

It is far from easy to describe all the characteristics of sherry, so much depends upon taste and fancy, and in the fact of the shippers keeping "soleras," or reserved wines, by an admixture of which they can produce almost every variety of colour and flavour. Without setting up an arbitrary standard, which I consider to be all but impossible, I will throw out, however, as a general hint, that sherry should be soft without being sweet; fruity to the taste while in the mouth, but leaving the palate quite clean; that it should be invigorating but not heating; and that as regards hue, it should be of a decided straw colour. If it possesses these qualities the epicure may rest fairly contented; albeit, in some few and minor particularities, such, for instance, as gradation of tint, the opinions of the very best judges may differ.

Portugal.

Portugal.

I approach the wines of Portugal, although I must necessarily be very brief in my notice of them, with considerable reluctance; for ever since I have heard or known anything of port wine it has formed a theme for controversy. It seems to be impossible to arrive at a satisfactory conclusion whether this notable and potent wine is a friend or foe to the human frame. Disputants are as unable to agree as to the desirability of drinking it as they are as to whether it should be sweet or dry, and among merchants themselves the argument has run high, and seems as far as ever from a definite solution. The trade in port wine commenced at the end of the 17th century in a spirit of unfairness towards France, whose manufactures, for political reasons, it was thought desirable to discourage. Every one has heard of the "Methuen" treaty, which, early in the 18th century, still further widened the commercial breach between England and France, pledging us, as it did, to an almost exclusive consumption of port wine, Portugal, on her side, agreeing to admit our woollen goods at reduced duties. The contest between port and claret thus commenced has continued ever since, although of late years the status of the combatants has been equalized by the reduction of duties on French wines.

Within the last few years the use of port has been, to a great extent, superseded by sherry, and at present it is suffering every day fiercer and fiercer opposition on the part of the wines of France; indeed, unless the shippers consent to make very radical alterations in their mode of preparation port will soon sink to the third rank in the hierarchy of wines. It is scarcely, perhaps, my province in such a paper as the present to enter into any discussion, but I think that I should in justice refer to the last report of Mr. Consul Crawfurd, and notice that portion in which he states that the wines of France are always mixed with spirit prior to exportation. This (the "French port" always excepted) is not the case. Mr. Crawfurd deduces from the supposed fact an apology for the employment of alcohol in port, adding that, owing to the writings of the late Baron Forrester, the consumption of port wine in England has not progressed as other wines have done. These are the Baron's propositions as stated by Mr. Crawfurd:—

Baron Forrester on port wine.

"1st. That port wine can be *made* without spirit, because French wine can be so made. 2nd. That the wine is shipped to England in an adulterated state"—propositions with which I should have thought most of those who are acquainted with the subject would agree.

I believe I am right in stating that it was never contemplated by the late Baron Forrester that port should not have a slight quantity of alcohol added to it, *after* making, which is very different from the practice of impregnating the wine with alcohol *during the process* of *making;* and I cannot help thinking that had the Baron's suggestion been acted upon we should have been able to take our port in comfort and safety, and with something like pride. As it is, the fact that we have habitually drunk, or that we drink this potent wine has become almost a reproach, and the Englishman's fondness for port has made him a laughing-stock in the eyes of foreigners.

Locality of production.

The wine known as port should be grown in the Alto Douro, but a vast quantity of other wines are brought in to be blended with it. In good years as much as 70,000 pipes have been made in the Douro district alone. The remarks on which I ventured in regard to Spain will also apply to Portugal, as to the error committed by the shippers in not exporting a variety of wines in lieu of one invariable and monotonous sort. Englishmen should have an opportunity to taste the wines of Estramadura, of Beira, and of Minho, which last are said not to be inferior to any grown in

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the Peninsula. The consumer's taste would be pleased; Portugal might be virtually compensated for the fading away of her unfair monopoly; and the shipper would be benefited, for he would no longer be the bond-servant of the Alto Douro, and the slave of port and nothing but port, but would be enabled to go further a-field and buy his wines cheaper.

Characteristics.

With regard to the characteristics of port, it may be stated that the presence of a modified "fruitiness" in it is an essential, but that it should *never* be sweet. Rich colour, firmness, homogeneousness, and a tendency to dryness without astringency will not fail to be among the qualities of good port wine. When, in addition to these, it has attained a ripe age, in bottle, and has acquired some bouquet, it is undeniably, whatever may be urged to the contrary, a noble and generous beverage, and, so long as Englishmen are Englishmen, will never fail to find admirers.

Unimportance of other sources of supply.

With reference to the other countries which are exhibitors of wine, &c. in the Champ de Mars, it is obvious that they do not afford us the same amount of interest—if, indeed, any commercially—as sources of supply; and I therefore do not propose to enter into their consideration, in this place, separately; but shall notice them in their order as they appear in the Exhibition. For a similar reason, the general history and characteristics of our own fermented liquors being perfectly familiar to the public, I shall comment upon our beers, spirits, cider, &c., as I pass the departments in which they are stored.

Exhibition.

The exhibition of the wines and other beverages themselves can afford little or no direct instruction, for, with one or two exceptions, it consists simply of rows of bottles —many of them empty: and which would blush, if they could, at the fictions they were obliged to tell. One cannot be too frequently reminded here of the proverb that "all is "not gold that glitters." In one notable instance of a sample being brought to us, literally hung round with medals, the wine, when tasted, was found so inferior that it was impossible even to classify it.

French Wines.

French wines.

The display of French wines commences in the immediate vicinity of the Porte Rapp, and, as might be expected, is of great extent and most neatly and elegantly arranged. But there is absolutely no novelty. The old, well-known

premiers crûs, or first growths, retain their ancient and honoured places at the head of French wines. I was disappointed to find that, with one or two exceptions, none of the great champagne houses have exhibited. I was informed that the fact of their reputation having been made was the reason for their so abstaining from participation in the world's congress; but I trust that my informant was in error. If the mere fact of having attained celebrity were, as a rule, to deter manufacturers from displaying their products, a long farewell must be bidden to universal exhibitions. Apart from the immediate commercial advantages derived from the publicity given to his wines, it should be the pride of the manufacturer to show to the utmost what his country can produce; and there is, moreover, much to be taught and much to be learned in all exhibitions which can scarcely fail to be mutually beneficial, both to exhibitors and to the community at large.

Bordeaux.

The display of Bordeaux wines is admirably arranged, being confined to the growth of 1864—a year that was fairly favourable to all districts. I was glad also to renew my acquaintance with some of the red wines of Lorraine, which I had tasted at Nancy. They are smooth, pleasant, and well flavoured, and very moderate in price. A very agreeable, sparkling wine, light and pure, and also made near Nancy, was exhibited; it is called *le vin de la côte des Chanoines*.

Cognac.

Some of the brandies were very good, especially those of 1827 and 1832 shown by Bertandau, of Juillac le Coq, near Cognac. These were the best specimens I ever tasted.

Application of heat to wines.

The iron bins and baskets employed in cellarage have long been in use in England. The only appreciable advance made in the manufacture of French wine is the subjection of wine intended for exportation to 60 deg. centigrade of heat. The exposure only continues for a few minutes, but the heat effectually destroys all germs of further fermentation, without, it is said, injuring the wine.

Belgium.

Belgium.

Belgium exhibits no wine; but has a very fair show of beers, liqueurs, and spirits. The last named are very well made; but it is difficult to speak favourably of the beers.

Germany.

Germany.

Under this head I include Prussia and all the smaller States, as some of the latter have little or nothing to show in the shape of wine. All the German products are

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arranged with characteristic neatness of design. Bavaria of course shows her renowned beer, and carries off a gold medal; and the Rhine and Moselle wines, although not represented by the houses best known in England, well sustain their high reputation. The spirits made at Berlin can scarcely be praised too highly for their "cleanliness" and cheapness.

Berlin spirits.

Austrian wines.

Austria, with which is included the kingdom of Hungary, makes a very extensive, and, on the whole, a very satisfactory show. In the centre of the former is a cask of enormous dimensions, exhibited by a merchant who is supposed to sell Hungarian wines. It is doubtful whether this is to be taken as an indication of the extremely friendly relations which now happily reign between Austria and Hungary; but the Magyar cask completely casts into the shade the modest but excellent wines of Vöslau close by, which seem quite overpowered by their gigantic neighbour.

Borrowing names.

I have already pointed out how undesirable it is for the younger wine countries, in their anxiety to introduce their wines to the English market, to borrow the names (and some are said to borrow the product likewise) of older English favourites. It may be in charity supposed that such a system has been adopted with a view to spare the English ear from hearing and the English mouth from pronouncing some extraordinary names borne by the less known wines, and of which I may take Tschwrtschenthaler as a sufficient specimen.

I was very pleased with some samples of wine from Marburg. These were fruity, and had good body. The red wines of Vöslau (exhibited by Mr. Schlumberger) are also worthy of most favourable note.

Hungarian wines.

Those who know how admirably the business of the Messrs. Iälics, of Pestb, is conducted, how magnificent is their establishment, and how rapid have been their advances in the development of the wine manufacture, will be gratified to learn that they have again been honourably distinguished.

Viennese beer.

As a matter of course a prize for beer is likewise carried off by Vienna—a prize obviously merited by the exquisite brewing of their favourite German beverage. The Viennese may fairly be styled the Montilla of malt and hops. The worthy monks of Klosteneuberg will also rejoice to hear that their exertions have met with a fitting reward, and they may add the Paris Exhibition gold medal to the sumptuous collection of jewels in their treasure chamber.

Switzerland.

Switzerland.

Generally speaking, the wine grown in the Helvetic Confederation is very ordinary. Of the tolerable sorts I may mention that from Yvorne, situated to the north-east of the Lake of Geneva, and the sparkling Neufchâtel. As a rule the Swiss, as wine growers, must be admired more for the industry and perseverance they have shown than for any great result they have attained.

Spain.

Spain.

Spain exhibits, in a separate building in the Park of the Champ de Mars, her cereals, her wine, her oil, and her tobaccos. The entire collection is splendid.

In wines none of the great Cadiz houses exhibit; and although I made three distinct engagements to examine and report on any wines which might be unknown in the English market, not one of these appointments was kept. "To-morrow" (the historical *manana* of Spain) was always suggested as the time when I really should see them. I did happen to taste, by accident, some wines from Malaga and Catalonia. They appeared to be quite as alcoholic as any to which we have been accustomed in England, and were widely different from that which the reports of travellers had led me to expect.

Spain carries off eight gold medals as her share of prizes.

Portugal.

Portugal.

Portugal makes but a very small show, and scarcely any attempt at display, or what the French term "installation," is essayed. I tasted one sample of port, fully fermented, but it was very dry and hard. Specimens of bucellas were, however, shown me, the which, I was assured, were wholly free from brandy, and the degustation confirmed the statement. It was a "pretty," pleasant, dryish wine, with a slightly bitter taste, but very agreeable to the palate. Surely if wines of this nature can be made as an exception, they could equally well be made as a rule. This bucellas was five years old, and perfectly firm and sound. The port shown by Rebello was also very good. He is almost the only Portuguese shipper who exhibits.

Greece.

Greek wines.

I was considerably disappointed in the examination of the wines of Greece. After the glowing accounts I had lately heard of them I was scarcely prepared to find santorin very light in body though of good bouquet,

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while the wine of Patras was very mediocre indeed, and that of Athens decidedly bad. I was informed that the Greeks were improving steadily in the manufacture of wines, and that, although they already produce from 60 to 70 millions of gallons annually, this yield might soon be very considerably increased.

Russia.

Russia.

Russia makes but a small display, but she has contrived to render it very complete. She exhibits wine, both dry and for dessert, together with beer and spirits; and her exhibition of sweetmeats is really quite captivating. The only descriptions of wines, however, grown on Russian soil, possessing any interest to the English consumer, are the white and red varieties from the Crimea, grown by Prince Woronzoff. The former are clean and dry, with a slight muscatel flavour and good body; the latter resembles very old port, bereft, however, of its strength. I should esteem these wines to be very suitable to our climate. I could not learn the precise quantities produced; but I am told the yield is plentiful.

Crimean wines.

Italian Wines.

Italian wines.

Notwithstanding an application on my part for information in this department, more than seven weeks after the opening of the Exposition the arrangements of the Italian section were still so far incomplete as to render it impossible for me to arrive at any satisfactory conclusion on the exhibition of Italian wines as a whole. The number of exhibitors is very large, and the wines shown are sufficiently varied; but, from all I could gather from extraneous sources, the samples exhibited fall very short of doing justice to the growths they are assumed to represent. Italy, even so far as the knowledge of her resources is concerned, is still in an undeveloped condition.

Turkish Wines.

Turkish wines.

In Turkey I found the *vins de liqueur* exhibited very good indeed, and very moderate in price. They are mainly fabricated in the island of Cyprus. The dry wines, or *vins de table*, grown in the Ottoman possessions—if the samples tasted are to be accepted as evidence of their quality—would seem fairly to justify the prohibition from wine imposed by Mahommed on his followers. They are decidedly to be avoided, both by Frank and Moslem. One red wine

appeared to have been mixed with liquorice; and a white specimen I tasted would scarcely have possessed any body or texture at all had it not been for some substance, resembling gum (possibly resin), suspended in it, and the presence of which was anything but agreeable to the palate.

American Wines.

American wines.

In the United States of America the show of wines is naturally very small; but I need only, in explanation, quote the terse remark of one of the United States Commissioners:—"We do not exhibit for the sake of selling, "but with the object of learning." Such being obviously the case, I shall be absolved from all imputations of unfriendliness in noticing the extreme sparseness of the wine product of North America. That the well-known "catawba," about which so much has been said, sung, and written, is a very "nice" wine few can deny. The Catawba grape has a defined flavour, which to many is delicious; but I do not think that full justice is done to the grape in its treatment under manufacture. The sparkling catawba has too much *mousse*, or frothiness, in lieu of coruscating effervescence about it. It is "full sweat," and shows some slight tendency to acidity; whilst dry catawba, although showing good bouquet, is deficient in the firmness and "roundness" inseparable from well-managed wines. In beers the great American Republic is doing very well indeed. It is unfortunate that the bitter ales manufactured by Messrs. Smith and Co., of New York, were lost during their voyage across the Atlantic; but their porters and strong ales can be tasted in excellent condition at the adjacent American restaurant, where also the "cocktails," "eye openers," "phlegm cutters," and other curiosities of the American bar can be drunk in perfection.

Sparkling Catawba.

Brazilian Wines.

Brazilian wines.

From the empire of Brazil but very little wine has hitherto come, but the cultivation of the vine, I am informed, is satisfactorally progressing. Some samples are exhibited made from green and ripe grapes. The former appeared very inferior, and I could discover little of the natural flavour of the grape in the latter, which rather resembled English "home-made" wine. Some "straw wine" from Rio de Janeiro, and another sample of the same kind from St. Paulo, evinced much higher qualities.

South American Republics.

South American wines.

In the South American Republics the only notable wine I found, and this was exceptionally deserving of notice, was a white wine from Lima, in Peru, called moquequa. It was soft, dry, and clean, but at present the annual growth does not exceed 40,000 gallons. This product, I am assured, is susceptible of a large increase. The price of moquequa is very moderate.

British Colonies.

British colonies.

As regards the colonial possessions of Great Britain, it should be a subject of gratification to all to find that the Cape of Good Hope has sent to the Paris Exhibition wine of such excellent quality as to elicit encomia even from the French jurors, usually so difficult to please in matters of taste. "Cape" wine has for a very long time been exposed to ridicule and detraction. "South African" sherries have been made the text of innumerable jests, now worn threadbare, and on the principle of "giving a dog a bad name" the stigma of opprobrium has been affixed to the vineyards of the Cape Colony, and the English public have grown perfectly ashamed of admitting that they could drink such a thing as Cape wine. The present display goes far to wipe out this foul blot on the South African scutcheon, and justifies us in the aspiration, that in the future the colony will be true to its name, and in the production of wines will be one of "Good Hope" indeed.

Australia.

Australia.

Australia also shows considerable improvement in her wines; but owing to the heavy expense of freight, and the demand which exists in the country itself, many years must elapse before England can look for any extended supply from this quarter. Such indications of improvement as are manifest in the wine growths of the Australian colonies should, nevertheless, be cordially welcomed.

Great Britain.

Great Britain.

I finally approach the fermented liquors of Great Britain; and I must premise that we make no very prominent display in the Champ de Mars. Were a stranger, indeed, to argue solely from the fact of our meagre exhibit of those products, he might either laud us enthusiastically for our extreme temperance, or, not being of the total abstinence persuasion, he might censure us for the little care we bestowed upon

the liquid creature-comforts of life. That which we have shown in the way of alcoholic beverages in the Exposition Universelle cannot be regarded as evidence either of the extent of our productions or the proportion of our trade. Nineteen exhibitors only represent the whole of Great Britain in the departments of brewing, distilling, vinegar and cider making.

MR. BECKWITH ON FERMENTED DRINKS.

Porter, ale, cider, perry, vinegar.—Taking these seriatim, I find that porter has been almost entirely neglected. None of the London brewers exhibit their manufactures in this article; but we have still no cause to be ashamed of the display made of our national beverage, beer. Never, perhaps, was the pale or bitter ale of Burton-on-Trent shown in finer condition or in greater general perfection, and I am glad to find that the international jury have shared the opinion I put forth, and have allotted two gold medals for beer to England, the other nations only taking one. One of these medals has been awarded to Messrs. Allsopp; the second is taken by Messrs. Bass.

Porter, ale, cider, perry, vinegar.

Not a single distiller of whisky makes his appearance; and Messrs. Underwood and Co. would alone represent English gin, were it not for Messrs. Boord and Son, whose celebrated "Old Tom" and liqueurs are vended at the refreshment buffet of Spiers and Pond; and Messrs. Dawn and Valentin's, whose liquors are sold by Bertram and Roberts. Messrs. Henley and Son (whose perry was much admired by the jury) divide with Messrs. Underwood the representation of vinegar, and with Mr. Fryer that of cider and perry.

I have thus endeavoured, as briefly as was consistent with the nature of the matters examined, to consider the various products in Class 73. It now only remains for me to draw a few deductions from what I have seen, and to hazard a few suggestions thereupon.

Utility Exhibitions.

The primary question suggested amounts, I apprehend, to this: Are exhibitions of any use? and, if so, in what lies their definite and practical utility? That the first part of this question must meet with a very general affirmative is obvious. The world has made up its mind that exhibitions, either general or sectional, are of great use to civilization; but while gladly admitting the postulate I may be allowed this reservation—that in what is called a "world's fair," *completeness* in every department is an imperative necessity. That department should not be admitted to distinctive exposition in which display was

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not made of the products of the leading manufacturers. Unless the most skilful and prominent representatives of a particular branch are present it is impossible that foreigners can form an adequate idea of our proficiency, or arrive at an impartial conclusion as to our merits. As well, indeed, might we exhibit a body without a head as a complete representation of the human form.

Prizes.

With regard to prizes, I hold medals, certificates, mentions, &c., to be legitimate instruments for good. That they may occasionally subserve the purposes of trade advertisement is a matter unworthy of notice, and one with which the donor at least has nothing to do; but they are of great value as an encouragement to industry and a recognition of merit. I may observe that many judicious friends of education have deprecated the prize system in schools, on the ground that undue emulation is thereby encouraged. Such objections do not hold with regard to trade and manufacture. There emulation cannot be too constant or too vigorous. The community is benefited in the end by increased cheapness and increased excellence.

Reforms in the awarding of prizes.

I would suggest, however, that the better plan in granting prizes would be to award them for special rather than for general merits. Rules much more defined as they affect the conditions of reward should be laid down beforehand, and these rules should be compiled, or at least approved, by a committee of the trade whose performances are under judgment; for such a committee would know better than any stranger could do what was most sought after, what was most difficult of attainment in manufacture, and consequently most meritorious in accomplishment. For instance, adducing my own class as an example, there might be, I think, a gold medal for the cheapest wine; another for that which showed the greatest properties—stability or "keeping;" a third for that possessing the finest flavour; a fourth for fulness of body; and an extraordinary medal—a jewelled or enamelled one, if that were thought expedient, for the wine combining in itself the greater number of the qualities mentioned above. These prizes might be limited to certain countries or districts, or, on the other hand, they might be thrown open to all the world. As the distribution of rewards is at present conducted, one exhibitor, we will say, obtains a gold medal for the perfection of his product, thus receiving the distinction which he deserved; *but if to another exhibitor in the same class is awarded a precisely similar recognition* an appreciable injury must be done to the first-selected party. The distinctive value

of the prizes given diminishes in a corresponding ratio to their augmentation in number, until, in the end, the first recipient becomes unpleasantly alive to the conviction that he would have been in a position as good, if not better, had no medals at all been awarded. I would wish particularly to call attention to this point, as a case of especial hardship has come under my notice in this Exhibition owing to the present mode of distributing rewards.

Practical results.

With regard to the practical utility of the Exhibition of 1867 as throwing any light on wine or the wine trade, I may point out, not for the information of the erudite, but for those who desire to learn, that it has been proved by the experience of the wine-producing countries of antiquity that nature must always be indebted to art and to science —and that, too, in a very extensive degree—in the production of good wine; and that, however bounteous may be the yield of the soil, mere copiousness of production weighs little in the scale against skill, perseverance, and carefulness in manufacture. Exhibitions such as the present, then, enable us to ascertain with accuracy what nations have become, or are becoming, most proficient in the art of improving the gifts with which they have been endowed by Providence. We also awaken to the knowledge of new sources of supply of good, cheap, wholesome, and natural wines—priceless desiderata to a country like England, whose taste has been for more than a century systematically vitiated; and, as this is the age of commercial treaties, I can see no valid reason why we should not exchange vast quantities of the manufactures on which we pride ourselves for the products of countries with which we have hitherto done but little business. Finally, the results of the Exhibition of 1867 should stimulate manufacturers to greater exertions and should place the consumer in a position to discriminate for the future between that which is faulty and that which is really excellent.

But how, it may be asked, are we to avail ourselves of the information thus acquired and turn it to profitable account? This is a question of most serious moment, and demands much more extended examination than I could possibly give it here. I may state, however, broadly, that we should adopt a new standard by which to test the quality of wine. We should seek for a beverage which could be *drunk*, and not merely sipped. We should look more to the legitimate quenching of thirst and the consequent refreshment of the frame, than to a refined kind of dram-drinking. We should drink our wine *with our food*,

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and not separately; and, did we adopt that course, I am persuaded that the liquor which appears almost acid to those accustomed to *vins de dessert* would become simply refreshing and appetising. And, finally, we should give ourselves a little more trouble about our wine. I have frequently heard it boasted that one of the chief advantages possessed by sherry over other wines was that it rather improved than deteriorated by being left open for a few days. Such a claim to distinction I cannot consider in any way complimentary to sherry; and, without wishing to plunge into controversy, I may venture to assert that all wine worthy of being so called is deserving of and requires great care. I have no wish to take an exaggerated estimate of the merits of wine; but when insisting on the necessity for its careful treatment, I may point out that "care" taken in trifles begets care in essentials; and it is my aspiration that, in the future, wine—natural wine, which is exhilarating rather than intoxicating—should be considered an article of necessity rather than one of luxury, a thing for daily use rather than indulgence. As an illustration of the perceptible increase in the taste for natural wines in England, I may state that, whereas prior to 1860 the importation was only 695,913 gallons, it attained in 1866 the comparatively large quantity of 3,365,802.

Improvement in national taste.

Further legislation necessary.

Further legislation is also clearly necessary to develop a national taste. It was by the blundering policy and one-sided treaties of our forefathers that our bad habits of drinking strong and brandied wines were fostered, and it is to the continued exertions of the late Mr. Benjamin Oliviera, seconded by some of the more enlightened wine merchants of England, and brought to a consummation by Mr. Gladstone when he reduced the wine duties to 1*s.* per gallon, that we owe our partial emancipation from the thraldom of "doctored" and "loaded" wines. A revolution is taking place in the national taste, and we only await the removal of a few remaining restrictions and impediments for the change from bad to good to be perfected.

Mercantile interest in wine.

But it is not to laws only that we must look. It is an incontrovertible fact that the tendency of modern political economy is to bring the producer and the consumer into closer proximity. Whether this be beneficial or detrimental to their mutual interests it is not my province to determine. I simply record the fact. Looking at it merely as a fact, it surely behoves the British merchant to take care that he buys in the best markets, and thereby satisfies the consumer, with whom he has now immediately to deal. I

am no advocate for startling and subversive changes, and I recognize to the full the anxiety of our principal English merchants to secure the best and most genuine wines for their customers. As a rule, the public may have no tangible ground for complaint; but there are exceptions to the rule. The public are fickle, and the most sedulous care should be taken to meet their wants and to keep them in the right direction. There is an erroneous idea, very widely prevalent, that genuine and natural wines can only be purchased abroad, and this idea the foreigner takes good care to foster. For their own sakes, therefore, I think that the members of the English trade should put aside their false notions of "dignity," and demonstrate, by the publication of circulars, that they are alive to the change which is taking place around them, and thus vindicate our high character for energy and enterprise in commerce. It is also essential that hotel-keepers should sell their wines according to a more just and reasonable tariff than that which at present prevails. The actual scale is simply absurd; and the hotel-keeper is comparatively content with a small profit on strong and alcoholic wines, of which little can be drunk, while he levies an exorbitant tax on natural wines, of which far larger quantities would be consumed were it not for the virtual prohibition laid upon them by "fancy" names and exorbitant prices.

I should regret to conclude this report, which has already been extended beyond the limits originally assigned to it, were I not to make some allusion, however brief, to the moral and physical desirability of drinking pure and natural wine in lieu of fiery and intoxicating mixtures. It is satisfactory to know that on this head I can fortify my own opinion by the recorded language of those who, in their time, have spoken with admitted authority on the question. On the characteristics of wine compared with spirits Professor Liebig thus writes:—"Wine, as a restorative, as a means of refreshment when the powers of life are exhausted, as a means of correction and compensation where misproportion occurs in nutrition and the organism is deranged in its operation, and as a means of protection against transient organic disturbances, *wine is surpassed by no product of nature or art.*" And again, "In no part of Germany do the apothecaries' establishments bring so low a price as in the rich cities on the Rhine; for there wine is the universal medicine for the healthy as well as for the sick, and it is as milk to the aged." Of spirits Professor Liebig writes that he who drinks them "draws, so to speak, a bill on his

Professor Liebig on wine.

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health, which must be always renewed because for want of means he cannot take it up. He consumes his capital, instead of his interest, and the result is the inevitable bankruptcy of his body."

Mr. Oliviera on wine.

Mr. Oliviera, too, speaking in the House of Commons on the 5th of April 1853, said in reference to the wine trade:—"It is a question affecting the moral and sanitary interests of the bulk of the people of this great country; it has important bearings on the greatest of human blessings—the preservation of peace between the nations of the world; it has a most important bearing on the social and moral condition of the people, and he had observed that in countries where wine was the ordinary beverage of the people there was less intoxication and a better tone of morality among the lower classes than existed among the corresponding classes in Great Britain."

Dr. Druitt on wine.

One more quotation, and my task may be brought to a close. It is from a little work written by Dr. Druitt, entitled "Report on Cheap Wines," and deserves, both for medical and social reasons, to be universally known. "But it is not only," remarks Dr. Druitt, "in a medical point of view, but as a friend of sobriety and morals, that I venture to advocate the larger use of wine—*i.e.*, pure wine—as a beverage. There are large numbers of townspeople, and especially of women, engaged in sedentary occupations who cannot digest the beer which is so well suited to our out-door labouring population. The very tea which is so grateful to their languid, pasty, flabby tongues, from its astringent and sub-acid properties, and which also comforts their miserable nerves, has this intense drawback that, when taken in excessive draughts, and without a due allowance of substantial food, it begets dyspepsia, and that worst form of it which impels the sufferer to seek a refuge in the gin bottle. Cheap wine would cut off the temptation of gin, and, with an equal bulk of water, would be found, in many cases, a happy substitute for tea. I know a great deal of the better class of needlewomen and milliners' assistants, and speak from experience."

Here I pause. It only remains for me once more to express a hope that I have fulfilled your wishes; and, looking beyond the mere glitter and pageantry of this vast congress of art and industry, I augur that, so far as the "fermented drinks" are concerned, the new sources of information, and the new evidences of development shown at the Exposition Universelle of 1867, will conduce to the

improved taste, health, and well-being of the people of Great Britain.

Supplementary Remarks on the Wine Trade.

Trade Marks.

Trade marks.

Are they beneficial or otherwise?

Were the question asked, What is their object? the obvious reply would seem to be that trade marks are employed in order to ensure to the purchaser the genuineness of the product he is seeking, and to protect the manufacturer against the fraudulent imitator of his wares. Were these ends infallibly attained without injury to commerce, trade marks would be cordially welcomed by all. It is extremely questionable, however, whether the objects sought are really effected. In the first place, what guarantee has the consumer that the product dignified by a trade mark is of a more genuine quality than that which has none?*

We have all heard of the two mountebanks who competed in making audible the squeaking of a pig beneath their cloaks. The squeaking of one, who was an old favourite with the audience, was declared to be immeasurably superior to that of his rival, notwithstanding that the defeated candidate showed them that he had really a live pig concealed under his garment, whereas the successful squeaker was merely a skilful ventriloquist. Thus I am persuaded that most persons of business pursuits could of their own experience furnish numerous instances of inferior goods realizing considerably higher prices than others of better quality and greater intrinsic value solely because the former enjoyed the factitious decoration of a trade mark.

Let me explain that I do not object to the employment of trade marks to a reasonably limited extent, but I do not hold it to be good or sound policy to lend all the powers of stringent laws and penal inflictions to what must in the end lessen the impulse of that commercial enterprise whichit is the interest of all to encourage. Merchants, no

* It is generally supposed that brandy, above all things, if bottled at Cognac, is quite above suspicion, and yet I am compelled to dispel that fond illusion, for I fear there is but little received in England which has not been, like most other beverages, "prepared," or, in other words, sweetened or doctored to suit the English "taste." Poor English taste! the term becomes, in view of our ravenous craving for potent drinks, a mere mockery of nomenclature. That I am not singular in my estimate of the "Cognac" shipped to England, I may mention that in the Paris Exhibition the French themselves declined altogether to consider some samples of what we should call very good brandy, simply because they had been "prepared" or sweetened for exportation.

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Trade marks.

matter whether they be wholesale or retail, if they desire to obtain the patronage of the public for *unprotected* merchandise, must in the first instance show that they deserve success by thoroughly mastering the details of their business, by diligently going forth in search of the best markets, and by relaxing no possible effort to earn a character for intelligence, fair dealing, and integrity. Such exertions, however, cease to be of primary necessity when the merchant's stock is entirely of a *trade-marked* description. Such a fact destroys the very germs of enterprise, and narrows instead of enlarging the field of competition. The struggle becomes one of unscrupulous underselling instead of an earnest and just contest of emulation as to who by his own industry and capacity shall succeed in dispensing an article which is not only the cheapest but the best. The *merchant* is resolved into a *patent agent.*

Regarding the question simply as one of national commercial economy, I am convinced that did wine merchants study their business as it deserves to be studied, it would be the means of retaining in this country for remunerative investment many thousands of pounds which are now virtually lost abroad through our ignorance and indifference. Trade marks owe their most powerful support to this want of knowledge. The public have come to mistrust their own judgment, and reposing blind confidence on those who profess to take an onerous responsibility off their shoulders, they become the willing slaves of a host of extraordinary devices.

I have used the term "protected" with reference to trade marks advisedly, because I hold trade-marked goods to be to those destitute of such a distinction as protection is to free trade, and because I fancy I discern in their general adoption a reactionary tendency towards protectionist doctrines, or, in other words, towards monopoly, which must in all cases be eminently detrimental to the consumer.

The manufacturer himself must allow that the final result of protection in all trades is depression and stagnation of energy. I admit that now, as in the old days of protection, there are some noble exceptions to this rule, men whose energies are only the more quickened by the success they have achieved in business, who disdain to rely on their trade marks rather than on their own industry and ability. Still the rule exists, and is undeniably injurious to general progress, and it must ever be rules and not exceptions that most intimately concern the public. For

my own part I candidly own that I do not consider trade marks on manufactures taken as a whole to be beneficial either to the producer or the consumer.

Trade marks.

Lastly, it is expedient to inquire how intermediate commerce is affected by trade marks. If in the new era we are to recognize only two classes, those who produce and those who consume, these reflections will be useless, but as some time, I trust, is to be allowed to merchants to put their houses in order ere they definitely retire from the contest, it is as well to ask what is their present standing in the strife? What are the chief requisites in the formation of the mercantile character? Are they not a thorough and intimate knowledge of business, a high sense of honour, and an earnest desire to gain a good name? and is it not the interest of us all to encourage such a race of traders? Where, however, is the scope for mercantile action to be found, and how can a merchant exemplify the characteristics I have named if his duties are confined to selling merely that which is branded and ticketed with its price? and where is his stimulus to build up a brilliant reputation if the results of his endeavours are only to enrich some person probably personally unknown to him? It is not, I repeat, because I object on the whole to the employment of trade marks that I am so short-sighted as to ignore their usefulness to a certain extent, but I do most earnestly deprecate violent extremes of any kind, and I protest on the one hand against the prevalent plan of possessors of well-known brands attempting to push themselves over and through the ranks of those who helped them to establish their names, while on the other hand I am constrained to think that but a poor spirit is exhibited by those merchants who in their anxiety to make money care little about making reputation, and who sell certain brands or trade marks, not because in their judgment they are any better than others, but because by using them they can "steal a march," so to speak, on their fellow traders. In such conduct as much ignorance as cupidity is shown, for the instruments they employ, instead of growing up to be their pride and support, while they prove at the best but a sorry aid, are at any time liable to be snatched from them by some one more rapacious than and as ignorant as themselves.

The foregoing reflections have naturally brought me to another topic intimately connected with the general theme, and I propose to say a few words concerning—

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The Old and the New Wine Merchant.

The old and new wine merchant.

I suppose there is no branch of commerce conducted on the same principles as those which govern the wine trade, and one of the chief reasons for this is, perhaps, that wine has hitherto been regarded as a luxury rather than as a necessary of life. It is my hope and belief that a great change in public opinion is taking place in this respect, and that Reform will develop into a pacific and beneficial revolution. For this to be effected, however, it is essential that with the change in the character of the article itself, there should be a corresponding alteration in the mode of selling and in the character of the vendor, and those who are inclined to blame Mr. Gladstone for revising the excise laws, and permitting grocers and others to sell wine, should rather blame themselves for not perceiving the inevitable consequences of such a change, as had they done so they might have secured a portion of that colossal trade, now almost the monopoly of one house, which had not only the wit to see their opportunity, but also the courage and energy to seize it.

Effect of Mr. Gladstone's revision of the excise laws.

There are, fortunately, admirers of both eras or schools of wine-selling—of the new and old-fashioned trader —and it is, perhaps, for the advantage of the public that both should continue to flourish. Let us see in what they differ from one another. The old-fashioned wine merchant, as described by the more modern aspirant to fame, "is unduly greedy of profit. He does not furnish a "list of prices, and so nobody knows what he has to sell, "or how much he intends to charge. He is not exactly "the same as other *merchants*, because he does actually "sell by retail, and yet he would resent the imputation of "being a tradesman, nor, as a rule, should he be so "classified."

The difference between the two schools.

This, or something like this, is the opinion of the new wine merchant with respect to his old-fashioned confrère. Let us hear now what the senior has to say of the juvenile with his "this" or his "that" wine at 42*s*., "usually sold at "60*s*." To tell the truth, the old despises the new man, and thinks that he is lowering the standard of the trade, and debasing the status of the trader in every sense. He accuses the modern merchant of putting wine on the same footing as pickles, marmalade, or candles. He sneers at his continual advertisements and prices current. He declares that the quotation of prices are so multiplied that the public become weary of the very name of wine, and that

thereby the entire trade is damaged and vulgarized. And yet, when I look upon this controversy simply as one of the public, I recognize that benefit accrues to us from both schools. It is erroneous to suppose that the old wine merchant realizes any very extraordinary profits in view of the capital invested in his business, in fact I am not aware of any trade in which results so modest are realized, for instead of netting two if not three bonuses per annum, the wine merchant of old and good standing cannot reckon on securing a profit more than once in three years on an average, if indeed so frequently. No one, I think, would consider 10 per cent. too high a rate of gross profit, and even supposing that, like one of the new school (who do not keep their wines until they have reached maturity), he turned his capital over, say, three times a year, such a course would give him 90 per cent. Does any one believe he gets such a profit? It is, I repeat, to the interest of the public that both the old and new school should continue, but I do not see the probability of the former keeping its ground, if on the one hand the public persist in the foolish expectation of obtaining fine and matured wines at ridiculously low prices, and on the other the old wine merchant has the mortification to see his young competitor not merely pocketing a large income, but at the same time gaining great popularity.

The old and new wine merchant. Profits on wine.

Turning once again to the modern school, we see a pregnant example of the evil working of trade marks or brands, and how by their means a wine merchant, even though advancing his pecuniary interests, may debase his vocation by pandering to the ignorance of the public whilst ostensibly appealing to its taste and intelligence. We will assume for example that A. is a well-known shipper of champagne; thereupon his name appears as a matter of course in the price list of a newly established wine merchant, and his products are quoted at a price considerably less than that at which they are usually sold.

Fallibility of advertised prices.

The merchant, however, omits to state, and the public are not aware that they ought to ask, how long this "well-known" wine has been landed in England, a most important question indeed, and one which materially affects the value of the wine. Neither does he say that the price at which he quotes this particular brand bears (most probably) a far lower rate of profit than those of other shippers, in fact that it is employed simply as a "decoy duck," whereby a too confiding and too easily "tickled" public are led to infer that all the wines sold by him are comparatively quite as cheap. But not only are the public

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thus deceived, the shipper himself is also seriously injured, for in an article so dependent on what is termed "taste" as champagne, it is most important for the manufacturer to keep in the first rank as regards prices; so much so is this the case that I could name an instance in which a champagne house, being very desirous to obtain a high reputation in this country, offered to accept less than their ordinary price, provided the merchant would quote it as the very highest in his list. Like Sheridan, they were wise in their generation. They were content to take the nonsense against the sense of the country.

The future of the wine trade.

There can be no doubt that the wine trade is at present in a transition state. What it may ultimately become I do not profess to determine, but I feel assured that with the exception of a certain number, whose prosperity is as it were guaranteed by the exigent refinement of a wealthy and luxurious section of the community, and by whom the trade in wine will always be regarded as a matter of luxury and high art as well as a necessary of life, it would be far wiser for the traders in wine who remain to combine and become bonâ fide *merchants*, ready and willing to supply retail shops. While others who are now struggling for little more than a bare livelihood would do well to take a leaf out of the objectionable grocers' book, and if they did not sell wine with jams and pickles, try to sell it without, in an open and unmistakeable shop.

Divided into those three classes there would be little room for those objectionable addenda to the present system which, in the shape of bankrupts, swindlers, and persons unable to get a living elsewhere, have often made "going "into the wine trade," a term almost equivalent to "going "on the turf."

To some of the public it may appear a matter of indifference as to how manufacturers and merchants conduct their business so long as they can buy their wine cheap; to my mind, however, it is quite as important that the channel of supply should be pure as well as cheap. The last is a desirable ingredient; the first is an actual necessity. And had I to give an answer to the oft made inquiry, "Where can I get good wine?" I would say go to a wine merchant of good character.

The Duties on Wine.

Duties on wine.

Although this may not be a subject altogether of public interest, a few remarks on the fiscal aspect of the wine trade may not at the present moment be inopportune.

All those who are connected with the wine trade are aware that there now virtually exist only two rates of duty, viz., of 1*s.* per gallon on wine which contains not more than 26° of alcohol, and of 2*s.* 6*d.* on that containing from 26° to 42°.

To speak more plainly, port, sherry, and marsala pay 2*s.* 6*d.*, whilst claret, burgundy, and other light wines are only charged 1*s.* By some this arrangement has been denounced as unfair, and these would reduce all duties to the same level. I question, however, if the demands of justice would be met by such a measure.

On what principle were they fixed?

Putting on one side all reference to revenue, for I discard all idea that it could possibly suffer from the private distillation of even the commonest wine, it may still be asked why it is that wine is taxed in the present manner? If it be taxed simply as a luxury, the logical inference would be that all wines should bear an equal burden. Was there a different rate at first in favour of the light wines in order to encourage their consumption, I would not, if that were the case, have such favoritism continue. It amounts to protection, and never has any trade thriven so well under protection as without it, and I would fain have it thrive. But if, as it is possible, it was the intention of those who revised the customs laws to tax, not simply the wine itself but the amount of spirit contained therein, I would certainly let the differential duties remain, and I would reply to those who are agitating for a change, "We do not prefer charging a diversity of duties, we would rather for many reasons there were but one; we were informed that good, pure, natural wine should only contain a certain proportion of alcohol, and on those considerations the duties were adjusted. The remedy is in your own hands; it is you and not the laws who are the cause of differential duties.

"We do not say that wine properly so called shall of necessity contain a specified quantity of alcohol, we merely limit its extent, and were we not so to do, how could we in justice refuse admission to any wine, no matter what its strength, provided the growers or importers of it assured us of its genuineness. And we contend that the arrangement whereby wines of a more alcoholized nature than our standard can be entered for consumption on payment of a somewhat higher rate of duty deserves to be viewed rather as a facility than an obstacle to commerce."

Shall the present standard be altered?

Whether the alcoholic limit at present fixed is the best or whether it might not with advantage be slightly extended

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is, I think, a fair subject for inquiry; but I do trust the extension may be only a slight one, for I have every reason to hope that ere long all the great wine countries will find means to prepare their wines to suit our duties, whereas if we consented to alter our tariff to meet the necessity of the present and unscientific mode of preparation we must, I fear, bid farewell to all hope of improvement in taste and habits such as many of us have so long and anxiously looked for.

It has been argued in some quarters that granting the test of alcoholic strength to be a fair one in fixing the rate of duty, port, sherry, and other similar wines are, when contrasted with claret, very unfairly taxed.

But is this the case? Although the limit for the 1*s.* duty is 26°, the light wines rarely exceed 18°, and if that be compared with strong wine at 42°, which pays 2*s.* 6*d.*, we find, first, that claret pays at the rate of 5*s.* per gallon for the spirit it contains, while the stronger kind only yields 6*s.* to the revenue; and although I am not privileged to know by what rules the framers of the Act which regulates the duties at present levied were guided, I am inclined to think that they did not disregard the calculation that the nearer wine approached in strength to pure alcohol the higher should be the RATE of duty placed upon it, more especially if that strength were in some measure due to the addition of brandy, which when it enters this country unmixed with wine, pays the highest of all spirit duties, viz., 10*s.* 5*d.* per gallon.

Wine in its Physiological Aspect.

The hygienic properties of wine.

Imperfect as this report may be, it would be still more incomplete did it not contain some reference (however brief) to the effects produced on the human frame by fermented beverages; but feeling that with all the interest the subject may possess I am treading, as a non-medical man, on ground which is alike difficult, delicate, and dangerous, I shall frame my remarks rather in the spirit of suggestion than in one of dogmatism, in the hope that other members of the medical profession besides Dr. Druitt may be led to the examination of this most important topic in its scientific bearings, for the sake not only of the public generally, but of medical men themselves, whose opinions, whether well or ill founded, must always have great power in influencing the national taste.

It may be asked in the first place, why we drink wine at all? and I opine I am giving a vaguely general answer

when I reply that we drink it because it is agreeable to us, and because in moderation it refreshes the body and exhilarates the spirits.

With such a general impression and with a persuasion that excess in wine, as in anything else, is detrimental to health, the majority of mankind might do well to be content, for we should be in a miserable condition indeed if we entered into minute and complicated calculations of the properties of everything we eat or drink, and of the precise proportions of influence thereby exerted on our frames ; but as among wines there are many candidates for our favour, I think it not altogether unadvisable that we should know something of their relative characteristics, to enable us, as in the case with our edibles, to select those which are best suited for our requirements.

Wine fully and partially fermented.

In cases of actual illness the most trifling difference in the age and in the locality of production of wine may be of serious import, but it is not within the province of this work to enter upon these graver questions. For the general public it will suffice I think if we divide our supplies into two classes, viz., fully and partially fermented wines. By fully fermented I mean those which contain only their own natural spirit, and which have been permitted to go through all their fermentations ; while the others, although not so imperfectly fermented as some imagine, are, by the addition of brandy, prevented from undergoing a second fermentation. Let us endeavour to ascertain the differences caused by those processes.

According to the doctrines laid down by some the difference is as startling as that which exists between nectar and poison, and in advocating the claims of what are termed " natural " wines can hardly find terms strong enough wherewith to denounce the beverages in which our fathers indulged. In all this there is at once injustice and impolicy. For in what does the real difference consist ? It consists in this, that there is in the first place an additional quantity of alcohol in the partially fermented wine, and further that there is retained in it a certain amount of sugar which no longer exists in the fully fermented article. At first sight this would appear to be but of very trifling moment, for apparently the addition of a little water would neutralize the difference, but I am bound to admit that it is not so easily rectified, for chemistry tells us that the presence in any quantity of saccharine and alcoholic matter are more serious than is apparent, the sugar being apt to turn acid in the system, whilst the

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brandy prevents it from escaping through the skin and other parts of the human economy as easily as it otherwise might do. The result is a tendency on the part of the captive matter to solidify in the blood, and so produce gout and other kindred ailments.

If this hypothesis be correct I cannot too earnestly wish "God speed" to those who are striving against prejudice and deep-rooted habits, and are unceasing in their endeavours to supply us with pure and fully fermented wines. There can be no doubt, I take it, that wine acts more as a stimulus *to* nutrition than as a material *of* nutrition, and since the usages of society and our own inclination induce a larger individual consumption than is perhaps necessary, it becomes a matter of imperative importance that what we drink, if it does not contain much that is actually beneficial, should at any rate be as free as possible from that which is actually noxious.

My own opinion has always been that for general use in this cold and humid country a powerful and generous wine is necessary, provided that its strength be natural and that it has been properly fermented. We require a wine which when taken alone will act as a cordial and a restorative, and which, when mixed with water, will form a pleasing and refreshing beverage; and I have sufficient faith in the energy and intelligence of my countrymen abroad to believe that these desiderata will ere long be obtained.

Conclusion.

Conclusion.

Let me, in conclusion, apologise to the reader if in any of the arguments or considerations I have adduced I may have been thought to have assumed anything approaching a dictatorial or authoritative tone. I have sedulously endeavoured to avoid the assumption of the office of a preacher or a moralist, for it is as far from my ability as it is foreign to my intention to arrogate to myself either the first or the last named functions.

It has been said that the easiest way to an Englishman's heart is through his stomach. Without endorsing or repudiating this doctrine, I do very seriously think that the moral status of a nation is materially influenced by its physical amusements and indulgences, and that these are generally found to be in accordance with its tastes and its standard of mental development. Actuated by this belief, I have very timorously ventured from time to time to interpolate amidst technical information a few hints as

to how possibly the taste of the people of England might not altogether be bereft of benefit by a more careful attention to our beverages, and by conscientious attempts to give the public something better to drink than that to which they have been hitherto accustomed. Any more decisive expression of opinion on my part would have been alike useless and impertinent.

In the firm hope that I shall live to see the day when it shall be practicable among all classes of my countrymen to obtain a glass of pure and sound wine,—whether it be used as a gentle stimulus to health, as a promoter of innocent cheerfulness on the very few occasions when in this busy country we can enjoy relaxation, or, lastly, as a restorative and an anodyne in sickness, and a comfort and support in old age,—I lay down my pen and bid the reader farewell.

Report on Live Stock in the Park of the Exhibition (Classes 75, 76, 77, 78, 79, 80).—By Captain Cockerell.

The prizes in Classes 75, 76, 77, 78, 79, and 80 are, according to the programme of the Exposition, to be competed for, not in the building or park on the Champs de Mars, but in a special yard constructed for this purpose at Billancourt, a short distance further down the Seine. Exhibition at Billancourt.

It is intended, therefore, that a series of shows (*concours*) should there be held in the following order:— Shows.

April	1st	fortnight,	Sheep.
	2nd	do.	Fat cattle.
May	1st	do.	Cows.
	2nd	do.	Sheep (bred on account of their fleeces).
June	1st	do.	Horses for draught.
	2nd	do.	Farmyard animals.
July	1st	do.	Bulls and cows (for draught).
	2nd	do.	Horses(forridingand driving).
August	1st	do.	Dogs.
	2nd	do.	Oxen (for draught).
Sept	1st	do.	Pigs.
	2nd	do.	Asses and mules.
Oct.	1st	do.	Fat cattle.
	2nd	do.	Acclimatised animals.

In spite, however, of these arrangements, a few animals belonging to the above classes have found their way into the park of the permanent Exhibition, and they, or somewhat similar specimens, are in most cases to remain there during the time the Exhibition is open.

At the entrance of the park leading to the Ecôle Militaire, and close to the gate, is the model farm of the Agricultural Society of Seine et Marne, and here is exhibited a constant succession of cows, oxen, and sheep, and generally some object worthy of atttention will be found there. Adjoining this building is another small model farm, the principal feature of which is a circular cowshed, exhibited by M. Giot, the great agriculturist of the same department. Model farm.

As, however, the animals in these farms are changed constantly, no particulars relating to them can be given that would be useful.

CAPTAIN COCKERELL ON LIVE STOCK, &c.

Poulalier roulant.

The Poulalier roulant here exhibited appears to be an admirable contrivance, and renders easy the shifting of its inhabitants from one ground to another—a process known to be highly beneficial to poultry, although usually neglected, from the difficulty that exists in effecting it.

Chicken-house.

Leaving the main avenue, a little behind M. Giot's farm, we find an ornamental chicken-house, and other farm buildings of the same character, designed with much taste by the Marquis d'Havrencourt, Chamberlain to his Majesty the Emperor.

Here, again arises the difficulty of affording a detailed account of their contents, owing to the constant changes that take place; but, as the duty of providing the inmates of these pretty little buildings rests with M. Bocquet, something of interest is invariably to be found in the careful selection made.

Roquefort cheese.

A little further on, in an easterly direction, is a strange rock-like building, exhibited by the cheese manufacturers of Roquefort. Outside will be seen feeding two or three ewes of the peculiar Larzac breed. Bad as food, they are highly valued for their milk, from which the celebrated cheese is made, well known to almost every visitor to Paris. Large flocks of these sheep are bred and fed on the arid plains around Roquefort. So scanty, however, is the herbage there, consisting chiefly of aromatic plants, which, however, contribute greatly to the peculiar flavour of the cheese, that much artificial food is found necessary, and fields of Luzerne grass are commonly grown for this purpose. The cheeses are made in the districts surrounding the village, but are all brought into Roquefort to be stored in the caves there; and it is from this process that they are supposed to derive their great excellence.

Two reasons are assigned for the impossibility that exists of producing as good an article anywhere else. Its excellence is supposed, first, to be derived from some peculiar quality in the stone of which the rocks forming the caves are composed, but more especially is it attributable to the ventilation caused by the natural fissures in the rocks themselves, whereby a soft current of cool air is constantly kept playing round the galleries in which the cheeses are placed.

The "mould," however, is partly artificial, and is obtained by introducing into the cheese a liquid of decayed bread. This bread, again, is purposely made with large quantities of yeast, and quickly gets into the mouldy state required to make the solution.

The building in the park represents one of these rock caves, the cheeses being arranged and the little lamps from

burning, as in the wilds of Larzac. As regards the sheep which the milk is taken, and of which, as we have said, specimens are kept on the spot, we may mention that some experiments were tried about fifty years ago to improve the value of the wool of the sheep by the introduction of some of the Spanish merino blood. The result was not satisfactory, and the milk-giving properties of the ewes were considered thereby to have been greatly impaired; and much pains have since been taken to recover the original purity of the breed. The Larzac sheep is thus described by M. Jules Bonhomme :—

Larzac sheep.

"We find in the Larzac sheep the same features that are traceable in several breeds of cows renowned for their milk-giving qualities—viz., a narrow chest without depth, a broad flank, a big stomach, and spare shoulders and thighs, at the same time a much-developed udder and a fine smooth skin. Like causes produce like effects in each race. The lamb, like the calf in milk-yielding races, is weaned too soon, and is badly nourished from its tenderest age; and to this cause is ascribed their defective build. The milch sheep, like the milch cow, is over fed; her paunch and stomach become large and, as she must give almost as much in milk as she consumes in food, there remains an insufficient quantity of nourishment for the proper development of the other parts of the body. The height, size, and yield of the Larzac sheep varies according to the fertility of the pasture on which she is fed. From this cause has arisen the mistaken idea that two different breeds existed there. The lambs that are taken when young to the most fertile plains naturally obtain a greater development than those reared on the poorer pasturage."

An average sheep yields about fourteen kilogrammes of cheese, though some have been known to give as much as 33 kilogrammes. It is calculated that the flocks number 400,000 sheep, of which 250,000 are ewes giving milk, and that in 1866 3,250,000 kilogrammes of cheese were sold to the trade.

M. Bignon's exhibits.

Leaving the Larzac sheep, and still pursuing an easterly direction, we come to M. Bignon's shed, where stand specimens of the animals bred and fatted by this gentleman. As, however, these, again, are being constantly changed, no remarks on the animals individually can be given. M. Bignon's mode of fatting cattle by keeping them quiet and warm should be observed. The ox in the further compartment, with only a small hole from which to view the public, is undergoing the process; and he will probably be served up by his present owner at his admirable establishment on the boulevards to some of his visitors this summer. The

Captain Cockerell on Live Stock, &c.

whole of M. Bignon's agricultural museum is interesting; and if, indeed, his farming is as good as his cooking, he deserves, and doubtless obtains, the success in the former which he has long achieved in the culinary art.

Merino sheep.

Passing by the "Tarentaise" cows, which, except in colour, resemble and are descended from the Swiss races, we come to M. Gilbert's exhibit of merino sheep. It is well known that this sheep was until lately worthless as mutton. M. Gilbert, however, determined to breed a merino sheep that should not have this disqualification. Various experiments had at different times been tried with this view; but the crossing with other breeds had always led to the same result—as the meat increased in weight and goodness, the fleece in like manner decreased in value. The plan he adopted was, we are informed, entirely one of careful selection. Taking invariably the fattest and best sheep combined with the best fleeces, M. Gilbert has succeeded in obtaining an animal yielding a fine fleece, and also making mutton of good quality. The success, however, which has at last crowned M. Gilbert's efforts was not achieved in a day, and it was only after years of untiring patience and determination that he obtained the present happy result.

Model dairy.

In the Boulevard du Sud is a pretty little model dairy, erected by the Comte de Kergorlay, in which some fine cows are generally to be seen. These are continually changed to admit of the various species being exhibited.

Siberian greyhounds.

Turning the corner of the Champs de Mars, and adjoining the Russian stable, we find a kennel with two Siberian greyhounds. They have somewhat the appearance of lurchers, and are used, we are informed, for running down large game, after it has been driven from cover by packs of smaller dogs.

Egyptian ass.

In the south-west division of the park, in a building between the Temple of Edfou and the Viceroy's palace, are stabled two excellent specimens of the Egyptian ass, whose gentleness and swiftness are proverbial. Unlike their European brethren, who are regarded as fit only for the costermonger's cart, these animals, when well bred and well trained, are much prized. Considerable attention is bestowed on their breeding, and they are subsequently trained "to run," for their pace can be defined by no other term. This peculiar step is taught by tying the fore and hind legs together, and forcing the animal along at a trot, at the same time that the head is tightly reined in. Some asses acquire this run with great ease, and one that is well broken to it, and can accomplish six or seven miles an hour, will fetch, if also strong and handsome, a very considerable

price. It will be observed that the skins of these animals are shining and well kept, and they themselves are fat and well fed, evincing the care and attention bestowed upon them by their sable attendants. In fact, the ass in Egypt takes the place of the horse in Europe; and the two specimens here exhibited are good types of their race. The white ass, we are informed, was born in Aboushir, in Lower Egypt, and is three years old; the black one is from Minieh, in Central Egypt, and is four years old.

We have now noticed most of the living animals exhibited in the Champs de Mars, coming strictly under the head of group 8. There remain, however, a few to which attention should be paid, although coming under no special group or class in the Exhibition catalogue.

Arabian dromedaries.

Under the same roof with the asses just noticed will be found two camels from Egypt. It must be distinctly understood that these are not specimens of the ordinary baggage camel, but of the Arabian riding camel, celebrated for its fleetness and endurance. In short, these animals bear precisely the same relation to the baggage camel that the thorough-bred racer does to the dray horse. We have used the word *camel*, as being the one generally employed and understood; properly speaking, however, the double-humped, or Bactrian camel (Camelus bactrianus) is unknown in Egypt, existing only, indeed, in Central Asia, the single-humped dromedary (C. dromedarius) being the only one there used, whether for riding or baggage.

A good riding dromedary will perform a journey of 120 miles in the course of 24 hours, without taking either food or water, supplies of which it carries in itself; the hump being composed of a fatty substance from which the animal is able to derive sufficient nourishment for seven or eight days, while a cavity in its stomach is capable of containing a supply of water unchanged during a like period, from which it is also able to draw at pleasure. The consequence, however, of one of these rapid journeys often proves fatal. For a short distance, of course, a much greater rate of speed can be obtained. Both the dromedaries exhibited are females; one is of the race of Bicharis, and was born at Abou-Hamed, in the Soudan, and is 10 years old. The other is of the race of Haïdi, was born at Abourich, in Lower Egypt, and is nine years old. A camel arrives at maturity in about five years, the duration of its life being about 40 years. These two specimens are well worthy of admiration; for, though the coarser sorts of the race are occasionally seen in this part of Europe, the aristocracy of the genus, as here exhibited, seldom find their way so far from home. The small,

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well-shaped head, the full, lustrous eye, and the more delicately formed limbs are the distinguishing marks of the high-born dromedary. Their accoutrements, saddles, and attendants are also interesting and picturesque.

A large shed is in the course of construction near the Chinese pagoda for the purpose of receiving two Siamese elephants, which, however, have not as yet arrived.

Horses, Asses, and Mules.

Second Report on Class 75.—By Captain Cockerell.

Billancourt. To complete the vast plan of the Universal International Exhibition of 1867 it was determined to hold a series of agricultural shows at the island of Billancourt, some way down the Seine, in a special yard constructed for the purpose.

Horseshows. Horses, cattle, sheep, and dogs were to succeed one another every fortnight. The horse shows, two in number, were to take place, one in the first fortnight of June, the other during the second fortnight in July. A show of asses and mules was also appointed for the second fortnight in September.

Exhibition not successful. It may as well be at once stated that in an international point of view these shows were failures. How, indeed, could it be otherwise? The inducements held out to foreign exhibitions could hardly have been considered by the most sanguine as sufficient to attract a large or brilliant attendance.

No money prizes of any sort were offered, and the honour of a trifling medal was certainly not enough to induce the owners of valuable cattle in distant countries to encounter the risk and expense of a long journey.

Even the prospect of an extension of reputation, which might have induced some of the larger dealers to come forward, and which contributes so materially to the success of international exhibitions, was not offered in this case. The distance of the show-yard at Billancourt rendered the number of daily visitors there comparatively small; and a dealer, wishing to show his horses to the public, could not but feel that he had a better chance of doing so in a livery-stable in the Champs Elysées than in a remote island some miles down the Seine, at all times difficult of access and in bad weather almost unattainable.

Mr. Howard. In the first exhibition Mr. Howard showed a few English horses; and in the second, half a dozen horses from Trakehnen (Prussia), and a similar number from Deux Ponts, in Bavaria, composed the whole of the foreign element.

French Horses, 1st show. As a show of French horses, the exhibition may be said to have been more successful, though here, again, certain causes militated against complete success, especially in the first *concours*.

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This was composed of horses especially adapted for draught, with breeding mares and stallions of the same classes. Now, this show, occurring before the close of the spring and at a time when the stallions cannot be spared from the country, rendered a large attendance of them impossible without serious loss to the owner. To this it must be added that a "Concours Hippique" took place about the same time on the Esplanade of the Invalides; and a *concours* at Caen, which must have taken away some of the Norman horses, occurred at the same time. The show of horses, therefore, was hardly as large as might have been expected; and the principal interest was centred in the horses of the four great French breeds, viz., the Percheron, Normand, Boulonnais, and Breton. Of these, unquestionably for this class of horse, the Percheron takes the first place in the general opinion of France. Out of the eight first prizes awarded by the jury, seven were decreed to this race, the remaining one being given to Mr. J. Howard's English cart-horses.

The largest purchasers of these horses appear to be the omnibus companies of Paris, and almost all their carriages are horsed from "Le Perche." There is no doubt that this race is a most useful one, and well adapted to the service for which they are now employed. A strong, compact, sturdy build, admirable feet,* and well-bred, handsome heads, are the characteristics of the race. An extraordinary resemblance exists in the general outline of all this family, pretty nearly every horse having the same merits and defects. The faults appear to be a want of power, particularly behind, the horses being generally under-limbed, causing them to trust to their weight rather than their strength in the performance of their work.

The introduction of English blood has been largely resorted to to mitigate the defects, and in the horses brought before the jury almost all bore marks of this intermixture. Great divisions of opinion have arisen relative to the advisability of these crossings, one party declaring that the Percheronne race is perfect as it is, the other advocating a still further introduction of foreign blood.

The tendency of all foreign races to assimilate themselves to those of the country to which they are brought, would tempt one to believe that a judicious system of selection would now do more to improve the excellent, though far

* One of the principal objections made to Mr. Howard's horses was the state of their feet, arising from bad shoeing. In this respect the French appear to me to be far in advance of us.

from perfect, breed of horses of the Perche than the perpetual introduction of fresh blood. CAPTAIN COCKERELL ON LIVE STOCK, &c.

It is to be regretted that the Normandy and other races of French horses, were not better represented. The few inferior specimens of each race that were exhibited being thrown far into the back-ground by the array of Percherons.

A stallion of this race, seven years old, exhibited by the Baron de Fourment, called forth the special admiration of the jury. The remainder of the first prizes were awarded to MM. Moreau, Pierre Perpère, Guillemin, Georges Moreau-Chaslon, and Lacour, and to Mr. J. Howard, of Bedford, for his English cart-horses, whose merits are hardly yet sufficiently understood in France.

The second exhibition took place during the second fortnight in July, and, although equally a failure in an international point of view, was larger, as regards horses, than the first. 2d show.

The announcement called for "Chevaux de Luxe," *i.e.*, riding and driving horses, ponies, hunters, &c.

The principal part of the show consisted of animals exhibited by the dealers who supply the Paris market, and a very good idea from it can be formed of the style of horse now in demand amongst the upper classes in France. There was a total absence of anything of the nature of hunters, the whole being either light hacks or carriage horses. Of these again, the latter formed the largest and most interesting part of the exhibition. These horses are principally bred in Normandy, and are known as the Anglo-Norman breed. They fetch large prices; indeed, quite as much as similar cattle would in London. The first prizes, carried off by Messrs. Marion and Delaville, for their respective collections of animals, were indeed well earned, and it is rare to see a more satisfactory string of young horses than those exhibited by each of these gentlemen.

As previously mentioned, the foreign element of the second show consisted of six horses from Trakehnen, in Prussia, and a few from Deux Ponts, in Bavaria. The two Hanoverian horses and ten Dutch mares belonging to French dealers could hardly be called a foreign element. In favour of the Trakehnen breed, little can be said. Originally a royal stud, founded in 1730, its energies have been devoted to breeding a set of perfectly black horses, whose fine colour seems now to constitute their chief merit. In spite, however, of their weedy appearance, they have a certain air of breeding and distinction about them, marking a long and noble lineage; and the extraordinary likeness of all these Prussian and other foreign horses.

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horses to one another evidences the care that has been taken to preserve their breed untainted from without.

Of the Deux-Ponts horses, still less can be said. Descended from pure Arab stock, of which they still bear the strongest marks, they have degenerated into the lightest ponies, fit only to carry ladies and children.

Russian horses.

Though badly represented at the Billancourt shows, several foreign horse found their way into the park of the Champs de Mars. The foremost in appearance of these collections were those exhibited by the Russian Commission. A neatly built wooden stable, curiously carved and unpainted, standing just outside the Russian department of the great building, contained the 24 horses sent over to illustrate the races of the immense empire of the Czar. An interesting little pamphlet published by the Commission, after tracing the organization of the studs of the empire, divides these horses into four classes—saddle-horses, trotters, horses for draught, and types of the different races. The foundation of studs in Russia is supposed to date from the earliest part of the sixteenth century, previous to which, however, a considerable portion of the revenue of the Crown was derived from the sale of horses. The father of Peter the Great appears to have been the first Czar who seriously endeavoured to improve the breeds of the country. Notwithstanding this, the Empress Anne, in 1730–40, was forced to buy horses for her body-guard in Germany. From that time, however, steady progress has been made until the studs of Russia have reached their present development: the total number of horses now in the empire amounting, we are told, to no less a number than 20,370,000.

Taking the saddle-horses in the first place, we find they are bred almost entirely from English and Arab blood crossed, and are apparently with justice held in high estimation. "Iskander Pacha," one of the handsomest of them, with a large proportion of Arab blood in his veins, is valued at 2,000 roubles (about 220*l.*)

The introduction and cultivation of a special race of trotting-horses in Russia is due to the celebrated Count Orloff, and their improvement has been a subject of much interest. Most of the horses exhibited belong to private individuals, and two of them were winners of several trotting-matches.

Some fine powerful draught-horses were exhibited in the third class, though here there would appear to be still much room for improvement.

The fourth and last class of the Russian stable was, perhaps, to the stranger the most interesting of the whole. The

higher breeds of horses in most countries spring from nearly the same roots, and Arabia first and England subsequently have furnished the original stock of most, if not of all, the thoroughbred horses in Europe. But to see specimens of the original breeds from all parts of the immense Russian empire was a curious and most remarkable sight. The world-wide reputation of the Cossack cavalry must make interesting even to the most superficial observer, these representatives of the hardy little animals which have enabled their riders to perform the services for which they have acquired such undying reputation.

The horses of the Cossacks of the Don were here represented by "Donetz," a neat, wiry, little animal, well adapted for the services of irregular cavalry. Animals of this breed fetch, we are told, from 12*l.* to 24*l.*, at the fairs held in the centre and south of Russia. It would occupy too much space to take each horse separately, but I give a list of them, and the governments in which they are bred, and their usual prices.

"Vasska," Bitiougue race, from the government of Voronège and Tambov; prices, from 24*l.* to 48*l.*

"Fine," Finland race; price, from 24*l.* to 48*l.*

"Vapsikass," Livonian race. These horses are said to spring from Arab blood, imported to the island of Oesel by the Crusaders, prices, from 9*l.* to 22*l.*

"Jmoud," from the government of Kovno, well adapted for agricultural purposes; prices, from 9*l.* to 20*l.*

"Konfetka," from the government of Perm; from 9*l.* to 30*l.*

"Bachkir," from the Ural Mountains; prices, from 7*l.* to 16*l.*

"Khan," of the Transcaucasian race; from 22*l.* to 48*l.*

"Kabardinetz," from the Caucasus. This horse is also interesting as being one of the riding horses of his Majesty the Emperor.

One concluding remark I must make on the extraordinary resemblance of these horses to those on which the irregular cavalry of British India are mounted. Many of them bear strong marks of having sprung from the coarser breeds of Bokhara and Persia, from which most of the horses now used for cavalry purposes in India have derived their origin. Considerable interest was added to the Russian stable by the picturesque dresses of the attendants, and the accoutrements and saddlery which hung about its walls.

Austrian horses.

In the month of July the Austrian Government exhibited a small collection of horses from their studs. Six of these representing the different races principally bred at the great

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establishment at Mezœhegyes, Kisber and Babolna, in Hungary, and at Radantz and Piber were here shown. Of these studs the first is far the largest, containing no less than 800 brood mares. Much value is set upon the descendants of a famous stallion named "Nonius." Of Anglo-Norman blood, and born in Normandy, he was early transferred to the stud at Deux Ponts, then part of France. In 1815, during the war, "Nonius" fell into the hands of the Austrians, and was sent to Mezœhegyes, where he became the progenitor of a race of horses named after him. After fifty years his descendants continued to reproduce his likeness with extraordinary fidelity, and upwards of 200 brood mares of his blood are at present at Mezœhegyes.

Tunis.

A few horses from Tunis were exhibited in a stable of their own in the park. They were coarse Arabs of no peculiar merit, and interesting only as showing the style of horses raised in the north of Africa.

The third and last show at which the attendance of the jury of class 75 was required took place in the second fortnight in September. The exhibition consisted of asses, mules, and the horses of the race from which mules are bred. The show, though not large, was of considerable interest, embracing, as it did, all the branches of this large and valuable industry. The interest was greatly increased by the attendance of certain experts,* who afforded the jury much information respecting a trade so entirely local as to be almost unknown out of the district in which it is carried on.

The animals exhibited may be divided into three classes—firstly, the horses from which the mule-producing mares are bred; secondly, the asses, sires of the mules; thirdly, the mules themselves.

Of the first, we need only say that the stallions were fine, strong, coarse-bred animals, somewhat resembling an undersized English cart horse. The mares were large, roomy, and strong.

Poitou ass.

The Poitou ass, as exhibited at Billancourt, the sire of the beautiful mules so largely imported into Spain, is an animal of peculiar and hideous appearance. His body is short, his legs long, his back straight, his quarter long, thin, and flat, and his shoulder very straight. An enormous head and long ears, often pendent, are the features that strike one at first sight. The immense size of his joints, however, soon inform one of the power and strength with which he is

* Principally M. Ayrault, to whose interesting remarks and admirable book, published since the Exhibition, I am indebted for most of my information.

gifted. The whole is shrouded with a cloak of long dark hair, over which neither comb nor brush is ever allowed to pass. The consequence is that the hair of several years becomes matted together, and hangs in brown felt-like rags all over the animal, giving him a filthy and uncouth appearance. The reason of this prejudice (the keeping the animals in a perpetual state of dirt), and of some other of the peculiar points insisted on for mule-breeding asses, does not quite appear. For instance, an ass should have the largest head and longest ears possible. Again, the ears should be lined with long curling hair; the back of the fetlock should also be garnished with long hair, and, above all, the coat should be long, curly, and woolly.

Prices.

The value of male asses is very remarkable, ranging from 120*l.* to 320*l.*, 200*l.* to 250*l.* being the ordinary prices they fetch. The principal reason for this is said to be the difficulty there is in rearing them during the first month of their existence, the greater part of them dying from an internal inflammation during the first few days after their birth. Once past the first month, they are easily reared and retain their full health and powers to a great age, twenty-five to thirty years being nothing uncommon. The she ass is comparatively of little value, and for 24*l.* you can have your choice. They are, however, seldom parted with by their owners when known to be good mothers.

The purchase and sale of male asses forms, as may be supposed, from their price, a very important event amongst the farmers of Poitou. The arrangement of a bargain frequently occupies twenty-four hours. After viewing the animal, the parties concerned proceed to eat and drink together; after which another inspection takes place, and again they retire to eat and drink. This is continued till a satisfactory deal is concluded, when the new purchase, ornamented with ribbons and crowned with laurels, is triumphantly conveyed in a cart covered with an awning to his new home, and which, once reached, the ass never again leaves. Placed alone in a loose box, he there remains for life. The stallion asses alone live at the studs; the mares, being the property of the farmers of the neighbourhood, are brought there when necessary, the ass, as before said, never leaving his stable even for a few minutes' exercise.

The number of studs in Poitou is estimated at about 160. Each stud contains on an average five stallion asses. Considering the number of people employed in this trade, one would be tempted to believe that the owner of a breeding stud would find in it a good return for the outlay of his capital. Strange to say, this is not the case; and M. Ayrault,

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in a calculation which he gives, comes to the conclusion that, on an outlay of 450*l.*, a clear profit of 4*l.* 8*s.* is all that can be expected.

The studs appear to be hereditary, and it is more as a point of honour than as a matter of profit, that they remain in the hands of their present owners.

Mules.

The mules exhibited at Billancourt were of two descriptions—the first, large, tall, and strong, fitted for baggage and agricultural purposes; and the second, of lighter build and more aristocratic appearance, and bred especially for Spanish market.

It should be distinctly understood that the mule of commerce is invariably the produce of the male ass with the mare; the produce of the horse with the she ass is of little value. The reason of this is easily understood, the large, roomy body of the mother allowing an early development in the former case, which would, of course, be impossible in the latter.

The internal trade in mules commences in Poitou when the animal is seven or eight months old; the breeder then sells him to the farmer, who, after allowing him to run wild till nearly two years old, commences to work him. After working in the farm for two years, the mule is fattened and brought to the fair, where he is sold to one of the foreign dealers, and leaves home for the south of France, Italy, Spain, or America.

Most of the mules exhibited at Billancourt were fit for exportation, and were considered favourable specimens of their race; in proof of which I would mention that a bay mule four years old, belonging to M. Raimbault, of Deux-Sèvres, which carried off the first prize, was sold for 1,300f. (52*l.*)

Prices.

The price of mules varies from 300f. to 1,500f.; the average price being about 600f. (24*l.*) In the Mauritius and other colonies the French mule fetches nearly double the prices of those bred at the Cape; a she mule is always more valuable than the male.

About 18,000 mules are sold in Poitou every year, bringing 10,800,000f. into the pockets of the farmers of the country. It is calculated that the brood mares have nearly doubled in number since 1815, so prosperous and lucrative is this branch of the trade found. It is also said that in the event of a war 18,000 baggage mules could be obtained by the Government in the course of a fortnight from Poitou alone.

Report on a New System of Shoeing Horses.—(Class 75.)—By Captain Cockerell.

The cases of horses' shoes shown at the International Exhibition were not very numerous. One in the Prussian section, two in the English, and one in the French constituted the entire exhibit. Nor, with the exception of the last, did these cases contain anything very new or interesting. I will, therefore, at once pass to the examination of M. Charlier's system, as being the only one displaying any striking novelty, and the only one that was brought prominently before the jury of class 75.

Horses' shoes.

M. Charlier's system.

Before entering into a description of this method of shoeing, it is necessary to understand the grounds upon which M. Charlier bases his theory. They are as follow:—

A horse in its natural state is unshod. Placed by man to perform unnatural work upon artificial roads, it becomes necessary, in order to prevent the hoof from being injured, to protect his feet with shoes. The object, however, of all shoeing is to interfere as little as possible with the action of the horse. How, then, has the old system succeeded in this respect? M. Charlier at once answers that it has not succeeded at all; one third of the horses one meets are lame, and three quarters of these are lame with diseases of the feet arising from bad shoeing. What, then, is the old system? "It is a plate of metal, always too large, placed below the horse's foot—a sort of hard sole, inflexible, heavy, and polished by use—resting at the same time on the crust or wall of the foot and on the sole, which is pared down so as never to touch the ground or receive any of the horse's weight upon it." This, M. Charlier says, must be all wrong.

Old system of shoeing.

1st. Why should the sole of the foot and frog not come upon the ground? Nature seems to have meant it to do so, and for this purpose has armed the former with strong and constantly-renewed horn, which modern farriers carefully remove.

Objections.

2nd. Does this heavy, hard iron shoe really protect the foot against the shock that takes place every time the latter comes to the ground? On the contrary, the hard metal plate, coming in contact with the hard road, sends into the foot a concussion, which, incessantly repeated, produces the most disastrous consequences.

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3rd. Is it right to make a horse carry a dead weight of iron on his foot double what is necessary? Must this not cause great and unnecessary expenditure of strength, and produce an immense amount of fatigue; in short, causing a great waste of power.

4th. The want of elasticity of the present shoe must be bad. It compresses the foot, impedes the circulation, and, by this, prevents the hoof from receiving its proper amount of nourishment, thereby drying it up and producing numberless diseases, by bringing it into an unhealthy state.

Moved by these and similar arguments, M. Charlier resolved in his own mind that the old method of shoeing was faulty in the extreme, and he determined to study how best these defects might be remedied.

Details of "Charlier" system.

The following is the plan that he at last decided upon, with what success I shall hereafter show:—Taking an instrument something like a square gouge, with a guide to prevent its cutting beyond the required depth, the farrier scoops a rectangular groove from the outer circle of the horse's foot. Into this groove is fitted an iron band, measuring rather more than the thickness of an ordinary horseshoe, with only half its width; this is secured with from five to seven nails. The shoe being thus sunk, the sole of the foot, which is never pared, and the frog are brought on the ground. The shock of the constant concussion of the iron shoe on the hard road is thrown into the wall of the foot, and not into the softer parts of the foot, which are protected by the tough and elastic horn of the sole; the frog being also brought on the ground allows the animal to feel and, as it were, to grasp the earth in slippery places. The shoe, being narrow, has a certain amount of elasticity about it, and, after a few days' use, adapts itself to the natural shape of the foot, expanding with its movement and developing the frog, bringing the whole foot into action; so much is this the case that, after three or four months, the foot is frequently found to have entirely altered its shape.

And here I should allude to another improvement of M. Charlier's. The holes into which the nails are driven are made oval instead of square, consequently the rectangular nail driven into them takes their shape, and by this means acquire a firmness of hold which is very advantageous. As was natural on the first introduction of a new idea, M. Charlier met with the most vigorous opposition, and some of the more prominent arguments used against him were as follow:—

Objections.

Having first been told that there was nothing new in his plan, that it had been tried and had failed years ago, other

objections were brought forward. It was urged that, having removed the iron from the sole of the foot, the latter remained wholly unprotected from sharp stones and rough ground. This M. Charlier refutes. The horn having been allowed to grow, becomes hard and thick, and well able to resist a sharp stone or any such substance; added to which, the shoe being imbedded in the hoof, no small stones or dirt can lodge between the foot and the shoe. Again, it is said, that the groove cut for the insertion of the iron must be so deep as to injure the sensitive parts of the foot. This is denied. At first a light shoe is used, and the groove is not deep. Eventually, as the foot strengthens and grows, a deeper iron can be used if necessary; but besides this, no sensitiveness exists in this part of the foot, and consequently there is no such danger to be apprehended if decent care is taken at first. And here I may state that M. Charlier's latest experiments lead him to think that when a horse is first shod the shoe should descend a trifle (about the eighth of an inch) below the foot to allow for wear. It is hardly necessary to observe that the shoes should vary in thickness and weight, according to the size of the foot to which they are to be applied.

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Another objection advanced is the difficulty, in the event of a horse losing a shoe at a distance from home, of having it replaced. Of course, on the general introduction of this system, this objection would disappear naturally. Meantime, we find that the thickness of the sole which has been allowed to grow is so great that an ordinary shoe can be fixed for the moment, and that on return home this can be easily again replaced by the Charlier shoe; and I have M. Languet's authority for saying that he has never had an instance of a horse in which this could not be done.

And now, having briefly described the system and its advantages as brought before the jury, I will give the opinions of some of the veterinary surgeons and horse proprietors whom I had the honour of seeing, with the intention of ascertaining their views upon this subject.

Opinions of veterinary surgeons and others.

My first visit was to M. Languet, above mentioned. This gentleman is one of the largest jobmasters in Paris; at his stable in the Chaussée d'Antin he has upwards of 100 horses, all of which are hardworked daily in the streets of Paris—"cet enfer des chevaux." About three years ago he commenced M. Charlier's system of shoeing. A few horses were first tried; finding it succeed he has now adopted it for the forefeet of all his horses. Being rather more expensive than the ordinary method (a difference of 35 c., or 3½*d.* per shoe), he does not use it for the hind feet, which

M. Languet.

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seldom have anything wrong with them. Monsieur Languet finds that he has two thirds fewer of his horses suffering from lameness than he used to have, and that he gets more work out of his stable than he did.

A horse casting a shoe some miles from home is driven in without being shod, the thick sole, which is allowed to grow, offering resistance enough for even a couple of days' moderate work. Horses hired to go into the country for a time are shod in the ordinary manner, and immediately on their return to Paris are reshod with the "Charlier" shoe. No difficulty is found in doing this.

The shoes of the new system are found to last quite as long as the old—about twenty-nine days. Since its introduction, certain classes of diseases of the feet (sand-cracks, for instance) have entirely disappeared from M. Languet's stables. Through the whole of the hard frost last winter he did not find it necessary to rough his horses.

Chemin de Fer de l'Ouest.

In the depôt of the Chemin de Fer de l'Ouest, at the Gare St. Lazare, I found that 600 horses had been for upwards of a year shod in this manner. These horses are very large and heavy, being used in omnibuses, and the carts that convey goods from the station into Paris.

The veterinary surgeon and other officials I saw there expressed themselves perfectly satisfied with the system. All their farriery being done at their own yards, I inquired if they found any difficulty in instructing their smiths in the new method. I was assured they had found none whatever, and that an intelligent man was quickly able to master the details. They were of opinion, however, that their farriers were unusually good, many reasons combining to make the service of the company in this branch very popular.

In this establishment horses with defective feet had frequently been shod with shoes weighing upwards of 4 lb.; the heaviest shoes now used never amount to 2 lbs. The veterinary surgeon was convinced that this relief enabled the horses to do more work than formerly, with less fatigue. None of the company's horses were roughed during the frost last winter. Their horses now fall less by half than they did previously; and whereas 300 shafts and poles a year were formerly broken, not one third of the number were so this year. Disease of the feet had almost disappeared from the company's stables.

M. Signol.

At the time of my visit to M. Signol I found that gentleman engaged in writing a report on the Charlier system of shoeing for the information of the directors of the General Omnibus Company of Paris, of which he is the able veterinary surgeon. Nearly 600 horses of the company are

now shod in this manner, and I here give some extracts from the report which M. Signol was kind enough to send me. He says:—

"Shoeing on the 'Charlier' system was commenced at the depôt at Monceaux, on Jan. 13, 1866, and the following are the results up to Jan. 6, 1867. The three classes of services on which these horses are employed are—1st, the regular service; 2nd, the service of 'La Côte;' 3rd, the relays. In the first class, 4,262 fore shoes have been used, giving an average use of twenty-nine days and one tenth; and 227 hind shoes, giving an average of twenty-five days and five tenths. To the horses performing the service of 'La Côte' (the extra horse put on to assist up steep inclines) 428 front shoes have been applied, giving an average of twenty-four days and nine tenths, and 17 hind shoes, giving an average of twenty days and seven tenths. Whatever kind of shoes be used, this service of La Côte invariably wears them out quicker than any other work. To the relay-horses 227 fore shoes have been applied, lasting thirty days and two-tenths, and 7 hind shoes, which lasted twenty-eight days and one tenth. This gives therefore an average of about twenty-nine days for the front, and twenty-six days for the hind shoes for ordinary work, not including the service of La Côte, which is exceptional."

M. Signol then proceeds to state his reasons for abandoning the Charlier shoeing for hind feet; they are as follow:—1. The hind feet, being of different construction, and having a different action from the fore, are not so liable to disease. 2. The peculiar work of omnibus horses wears out the hind shoes quickly at the toe where they grip the ground; the shoe is then forced open, tearing itself away from the foot.

In spite of this, M. Signol thinks that some way of utilizing the system for all four feet could be found.

The report then proceeds:—"The first advantage of this shoeing is its lightness—it weighs at most, from 850 grams. to 900 grams. (28 oz. to 30 oz.); the old-fashioned shoe weighs from 1,150 grams. to 1,200 grams. (38 oz. to 40 oz.) A weight, therefore, of 300 grams. (10 oz.) is removed from each foot. The economy of labour resulting from this relief is easily understood.

"The second advantage consists in leaving the foot its natural shape;" and here I cannot do better than quote M. Signol's own words on the subject:—

"Vous comprendrez sans peine, MM., que ce fer encrusté, dilatable laissant aux arcs boutants toute leur force, maintient l'ecartement du talon, et permet à la fourchette de venir porter sur le sol, pour remplir son rôle de tampon

Captain Cockerell on Shoeing Horses.

d'amortissement destiné à éteindre les réactions violentes que ne peut manquer de produire sur les membres et les autres organes le poids du cheval multiplié par la vitesse, quand il vient remonter le sol. Ceci est un second avantage qu'on pourrait decomposer mathématiquement, mais qui se traduit d'une manière pratique par l'élargissement très appréciable des talons, après un certain temps de l'usage de cette ferrine. Ces avantages ne sont pas les seuls. Par suite des données physiologiques que j'exposais plus haut, les arcs boutants conservant toute l'intégrité de leurs fonctions, les bleimes deviennent beaucoup plus rares. D'ou, une source de moins d'incapacité de travail, de frais de traitement, et de complications quelquefois fort graves. Il en est de même pour une grande partie des seimes quartes qui se declarent aux membres antérieurs. Un cheval faisant le service de Mr. J—— M———, administrateur de la cavalerie, a été guéri de deux seimes quartes, sans l'emploi d'autres moyens de traitement, bien qu' avant l'emploi de la ferrure Charlier il fallut les apérir assez fréquemment, et tenir le cheval indisponible pendant un temps plus ou moins long.

"Le côté hygienique de la question peut donc se résumer ainsi:—1, Allégement du fer et économie des forces employées à soutenir un poids inutile; 2, conservation de l'intégrité fonctionnelle du poids; 3, amortissement des réactions, et par suite, conservation des membres."

Action of French Government.

It will naturally be asked what action the French Government have taken with reference to the introduction of the system into the mounted branches of the army. From the inquiries I have made I am led to believe that up to the present moment it has never been thoroughly and properly tried in any regiment of cavalry or battery of artillery. An officer from the mounted branch of the service is at this moment charged with the duty of making a report on this and other systems of shoeing. He tells me he has formed a favourable opinion of M. Charlier's theory, but that he considers a long practical trial would be necessary in some mounted regiment before a decided verdict as to its merits could be pronounced.

Army horses.

In a visit I paid to a regiment quartered in Paris, I found four horses had been shod in this way, and the veterinary surgeons spoke highly in its favour. There are, however, difficulties in the way of its general introduction into the army that should be noticed. The farriers in the French service supply the horses' shoes; and as the Charlier iron is at present made entirely by hand, and is rather more expensive than the old pattern, it naturally follows that the farriers are not particularly anxious for its adoption. Of

course, this objection would be overcome should its use become general, as it could easily be manufactured by machinery, and, weighing less than the common shoe, would consequently be cheaper.

The parings of horn from the horses' feet, under the old system, is also a source of revenue to all farriers; under the new, which allows of no paring, this perquisite would therefore at once disappear.

The farriers, too, in the French army are only enlisted for a very limited period, and, having learnt a trade while serving with the regiment, do not often re-enlist, as they can be more advantageously employed elsewhere. The consequence of this is that few of them acquire any great experience, and the veterinary surgeon cares not to highly educate a man whom he must lose at the end of a short period. The introduction and proper trial of the system on a large scale would therefore require some time, expense, and trouble.

Trial of "Charlier" system in England.

M. Charlier informed me that the colonel of a dragoon regiment was trying this shoeing on his private horses in England. He expressed some doubts, however, whether a shoeing-smith who had never seen the operation properly performed, nor had demonstrated to him the many minutiæ to which great attention should be paid, would be capable of thoroughly carrying it out.

In conclusion, I would suggest that a system so highly approved of by the jury and now so largely used in Paris would be worth a trial in England. Any method by which we can preserve our horses from lameness, or cause them to work a year or two longer for us, is a benevolent economy which it behoves us well to try, to say nothing of the duty we owe to our most valuable and useful servant, the horse.

Report on Products of Useful Insects.—(Class 81.)—By Mr. Andrew Murray.

Scope of class.

The objects falling under this class are few, being, with the exception of some cochineal insects from the Cape, some specimens of bleached shellac, and a number of admirable contrivances relating to the housing and management of bees, limited to collections of silk. What there is of novelty in these exceptions is trifling and of no particular interest, and the present report must therefore be confined to silk.

Silk.

The exhibits of silk are of two kinds—the silk produced by the mulberry silkworm and that produced by other species of silkworm. The former, notwithstanding the devastation caused by the disease which, for the last twenty years, has ravaged the silk-producing countries, would lead no one to suppose that the silk industry was suffering from any depression. The silk exhibited is as fine and beautiful as at any former period; but, although fair to the view, and apparently abundant, it is silent on the most important point—the amount of production. It does not and cannot tell the quantity of silk actually produced during the previous year, and still less the quantity which would have been produced but for the existence of the disease. We must draw our information on these points from other sources.

Silkworm disease.

Those who are unfamiliar with the silk-producing countries can have little idea of the anxiety with which the progress of the disease is there regarded, nor of the amount of misery which it threatens to inflict on vast numbers of the inhabitants. Although, therefore, there is nothing, so far as I observed, exhibited, bearing direct relation to the disease, there is so much indirectly bearing on it, that I feel that I should leave a very important part of my duty undischarged if I said nothing in this report about the silkworm disease.

History of disease.

Ever since the silkworm was introduced into Europe it has been known to be subject to various diseases; and some good authorities are of opinion that the malady which has latterly proved so fatal has always been present in a modified state, only showing itself in its more virulent aspect from time to time when peculiar conditions stimulated its development. The more general opinion, however, is, that it is a new disease, unknown prior to 1842, and appearing as an epidemic like cholera; not taking the place of other known diseases, but often combining with them, and, by first sapping

the constitution of the insect, rendering it an easy prey to any of the other diseases which might attack it; as in ourselves a man attacked by incurable phthisis may be suddenly carried off by typhoid fever, sharp enteritis, or other less fatal complaints.

Kinds of disease.

From twelve to fourteen well-marked distinct diseases have been observed in silkworms; and naturally these have been chiefly studied in the caterpillar, which is of course more under the observation of those who occupy themselves with this industry than any of the other stages of the life of the insect.

Pebrine disease.

This is not the place to give an account of these different diseases, but it may be interesting to the reader to know something of the nature and appearance of the pebrine, the epidemic which has been so destructive of late years. The distinguishing mark of this disease is the presence of dark spots—*peppered*, as it were—all over the insect (whence the name Pebrine, quasi *poivrine*); and these not confined to the surface, but extending all through the tissues and substance, even into the blood; the nervous system being the only part in which they have not been observed; but in it, too, traces are doubtless present. Fig. 1 shows a diseased caterpillar (a little enlarged), and fig. 2 a portion of its back more highly magnified. The spots there indicated are found

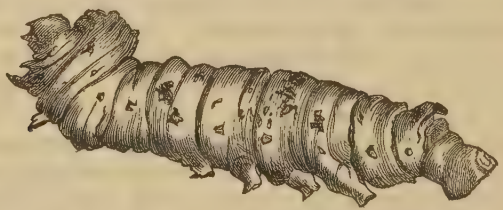

Fig. 1.—Diseased silkworm, slightly magnified.

Fig. 2.—Portion of back of diseased silkworm, much magnified.

also in the chrysalis and perfect insect, the very scales of the moth (fig. 3) being slightly spotted too. The disease

Fig. 3.—Scale of silkworm moth, showing the disease, magnified.

does not show itself, however, until after the third moult; and in many cases, when the worms seem healthy, it requires an examination by a lens or microscope to detect the spots, they are so minute. Generally speaking, the insect does not die in the caterpillar state; many do, but the majority have strength to spin their cocoon. Some then die; others survive until they appear as the perfect insect, and even attempt to propagate their species, but their eggs are either addle or the caterpillars which come out are infected with the disease, it being hereditary, and die before spinning. A curious symptom, and one which distinguishes this disease from the muscardine, with which, in other respects, it has analogy, is that the dead body of the caterpillar desiccates and mummifies in the former, while it speedily putrefies in the latter. As already said, it has been compared to the cholera and other epidemics; and it certainly has many points in common with them. Like them, bursting upon a country suddenly and with fearful destruction, without warning, progressing steadily from place to place, often taking great leaps, often mysteriously passing over one place untouched while sparing nothing in a neighbouring locality, usually becoming mitigated before hygienic precautions, although at times it bids them defiance; now disregarding robustness of individuals, and again sparing the most careless, neglectful, and feeble; but, although conducting itself as an epidemic when once established, it differs in some important respects from all previous epidemics. The cholera, the plague, the bloody sweat, the black death, the cattle plague, all came from the East; either the centre of Asia or the Indo-Malayan district was the focus from which they proceeded. The Asiatic cholera, for example, confined for many ages to the delta of the Ganges and its neighbourhood, first spread itself into the Indian Archipelago, then returned to India and made itself master of the whole of it; and, after stopping there for a sufficiently long time, it successively invaded Asia, Europe, America, and the whole world. It was not so with the silkworm epidemic. It did not come from the East. It

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first showed itself in France in 1842, in Herault and Poictiers, and then only in a local and erratic manner. Indeed, there are reasons for thinking that it may have been brooding for twenty years previously in the valley of the Durana and neighbourhood of Cavaillon, whole establishments of silkworms (*magnaneries*) having there at different times suddenly perished without apparent cause, and other symptoms having shown themselves which are now known to be those of the pebrine. Whether it was so in these cases or not, there is no doubt that when the disease showed itself as an epidemic it took its rise in the department of Vaucluse, and in the neighbourhood of Avignon, in 1845. It appeared independently in these different places at one and the same time. The progress made by the epidemic was not very great until 1855 and 1856; but it then increased so rapidly that in 1858 M. Quatrefages (in an examination which he made of the infected districts as commissioner from the Institute, and from whose report we draw most of our information regarding the disease,) could not find a single caterpillar in the districts he visited free from the disease. Some change for the better took place in 1859; but since then a gradual and alarming increase in the intensity and spread of the disease has taken place.

Statistics of silk produce, showing progress of disease.

From returns prepared by Mr. Eaton, the eminent silk-broker, we learn the amount in pounds avoirdupois of the consumption of raw and thrown silk, in Great Britain*, in each of the years from 1851 to 1856. It is unnecessary to say that the consumption bears a very close relation to the supply; when we know the one we can form a good guess at the other.

	Lb.
In 1858 the British consumption amounted to	10,021,766
In 1859 „ „ „	10,429,338
In 1860 „ „ „	9,096,826
In 1861 „ „ „	8,125,982
In 1862 „ „ „	9,706,202
In 1863 „ „ „	8,182,645
In 1864 „ „ „	7,541,578
In 1865 „ „ „	6,492,720
In 1866 „ „ „	5,273,767

Taking each country by itself, we could trace the date when the epidemic struck it by the diminution in its exports. China, for example, in 1857, when Italy and France were already prostrated, sent four fifths of the whole importations of Britain, or 9,000,000 lb. out of

* We have not the same data as regards France, but her consumption seems to be generally about double that of England.

11,500,000 lb. The epidemic did not strike China heavily until 1864, when in one year our importations from that country fell from 7,000,000 lb. to 3,000,000 lb.

In this survey we must remember that the evil has only spread by degrees, and it is only in the latter years, when the diminution appears prominent, that the disease has reached China, while the Chinese returns are an all-important element of the calculation, for China, before the epidemic appeared, used to supply more than half our consumption.

Prices showing progress of disease.

The prices tell the same tale, having risen about one third since 1856—the highest price of raw Chinese Tsatlee silk having gradually increased from 19*s.* 6*d.* in 1856 to 32*s.* 6*d.* in 1866, and of Italian white Novi having, in like manner, increased from 30*s.* in 1856 to 46*s.* in 1866.

Consequences of disease.

Wherever the disease appeared, the result was the speedy clearing off, almost the annihilation, of all the silkworms in the district; and the complete extinction of the silk industry in these localities would have necessarily followed had it not been that every place was not attacked at the same time. Consequently, the silk-growers, by procuring *graines*—that is, seed or eggs—from the districts which the epidemic, in its capricious course, had passed over, were enabled year after year to keep their magnaneries going, obtaining only a half crop, but no good *graines*, from them for next year. As the epidemic has rarely if ever left a place where it had been once established, each fresh introduction of eggs lasted only one year, and the silk-grower was thus left dependent for next year's worms on the chance of his procuring a fresh supply of *graines* from some uninfected district. At first one parish or one department helped another, but by-and-by the epidemic had extended itself so widely in France that the healthy spots were insufficient to provide the necessary supply of seed for the wants of the rest of the kingdom. Supplies of seed were then drawn from neighbouring countries which had as yet escaped the scourge. At first Spain and Piedmont, then Lombardy, and afterwards Calabria and the rest of Italy, were had recourse to; but by-and-by the epidemic extended itself successively into them: and then supplies were drawn from Turkey, Asia Minor, and Syria. These in their turn suffered; and the disease rolled on (against the usual course of epidemics), eastward, into Asia. In 1858 it had appeared in various parts of Persia, as far as the shores of the Caspian Sea. In 1859 it had reached the Russian provinces beyond the Caucasus; and at that time M. de Quatrefages thus expressed himself as to the future supply:

Introduction of *graines* from abroad.

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—"We must expect to see the countries which have hitherto escaped, attacked in their turn. But where, then, shall we go to seek the 50,000 kilogrammes of *graines* (eggs) which we require? Shall it be in Central Asia? Shall it be in China? But who dare affirm that these two countries will always escape this scourge? Already India, and even some part of China, seem to feel the first symptoms ('Observations of M. the Count Freschi;' 'Letters from Chang Hai, in the bulletins of the Society of Acclimatation of France,' December 1859). But, admitting that the northern parts of that empire—probably the native country of the silk-worm—should enjoy complete immunity, how shall we carry these *graines* to France? Shall it be by land or by sea? Shall we double the Cape of Good Hope or cross North America? All these hypotheses suppose journeys by land bristling with obstacles of all kinds, or else a long passage accomplished in a great measure under the line and the intertropical zones. In both cases the maintenance of the *graines* in good condition is almost equally difficult, if not impossible, as soon as any considerable consignments are concerned" ("Quatrefages sur les Maladies Actuelles du Ver à Soie; Mémoires de l'Institut Impérial de France; Academie des Sciences, xxx., p. 597, 1860"). One part of what M. de Quatrefages foresaw and dreaded has come to pass. The places which had escaped up to the time he wrote (1859), and from which the supply of *graines* had been hitherto drawn, were gradually seized upon by the disease, and the European cultivators have been driven to draw their supply of eggs from China and Japan. But what he did not consider possible—viz., to send the eggs from these distant lands—has been accomplished; the ingenuity of man has found a way of transmitting them thence in safety and in quantity. The eggs are closely spread over and glued upon a sheet of stiff paper, which fits into a slide in a shallow carton or box, in which they are dispatched. The exclusion from the air seems to prevent their coming out during the passage to Europe, and they have been found to arrive in perfect safety and good order. In fact, a great commerce in them is already established between Europe and Japan.

Future supply of *graines*.

Graines from Japan.

But when Japan in its turn shall succumb, whence will the supply then come, and where will the silk cultivation and silk manufacture find itself, if no other source of supply can be discovered? If no change comes, there seems nothing but total extinction before them. M. de Quatrefages anticipates a less melancholy termination. "If the present

Production of *graines* as a separate branch of industry.

epidemic," says he, "comports itself to this end, like other maladies of that kind, as it has done hitherto, it will become extinguished by degrees in the countries which were first attacked, in proportion as it develops itself in new countries. According to this view, France would be the first free, and that at the very time when Central Italy, Turkey, and Asia Minor would be the most severely struck. In their turn these regions would be forced to borrow from without the means of saving their silk industry. We should have then to furnish *graines* to these very countries which have been selling them to us for so long a time. I should not wish to give rise to exaggerated hopes, but everything leads me to believe that things will happen in that way, and perhaps the moment is not distant when our cultivators may find in this the means of repairing in part their past losses" (Quatrefages, Op. cit., p. 598). He, therefore, recommends them *se remettre en graine*, to use the French colloquial phrase, equivalent in English to "to go in for *graines*." It may be worth consideration whether it would not answer in the south of England to rear silkworms for this purpose.

Cause of continuance of disease.

Unhappily, the apparently just expectations of M. de Quatrefages regarding the course which the disease might be expected to follow have not been realized. And why? His anticipation was a most reasonable one. All past experience justified it. Why has it not been fulfilled? Why has this epidemic alone of all epidemics which have been, since the world began, refused to go the way of the others? They, after attacking a country and killing off all that were susceptible to their influence, have, after a time, uniformly taken their departure, and gone on to ravage other lands, leaving a remnant of the creatures attacked to restore the race. Their course has been like that of a devastating army or a flight of locusts. When they have eaten up a land they leave it and resume their course in search of fresh food in other regions. Why has not the silkworm epidemic done so too? Is there any peculiarity in the way it has been met or difference in its treatment? If there is, we may reasonably look to that difference for the explanation. So looked at, the cause is patent and under our hand. The epidemic has not been left to run its natural course, as other epidemics have. A new element has been introduced by man, which was present in no other epidemic. It is the introduction of *graines* every year. If, after a flight of locusts had consumed every green leaf in a land, and was about to take wing for pastures new, a fresh supply of

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vegetable food was brought them, we could not be surprised that they still remained to eat up the new fodder; if, when an army has exhausted the resources of a whole district, and is about to be compelled to move into new quarters to procure subsistence, an ample convoy of provisions and material reaches them, we may assume that their departure will be postponed until that provision has been exhausted. So it is with this and all other epidemics when once established; the only means of getting rid of them is by process of exhaustion; the only cure yet found is by starving them out; when all that is food for them has been consumed, then they will die out, but not until then.

Suggestion that continuance of disease may be due to constant introduction of fresh *graines*.

The great evil in the present case, and the direct cause of the threatened extinction of the silkworm, appears to me, therefore, to be the yearly introduction of fresh eggs, so that a new supply of victims is constantly presented to the disease ere it has left its ground. The effect of this upon the district is twofold. In the first place, the disease consumes all the new comers that are susceptible of its influence; and in the next place it consumes any similarly susceptible produce of the old residents of the previous year, so that the descendants (or what in man would be the survivors) of those which had been first attacked become fewer and fewer each year. In fact, these latter must soon be all extinguished, and the future survivors will consist of the residue of the fresh supplies. With our attention once directed to it, it is not difficult to trace indications of the action of a similar principle in other epidemics. I would cite the constant presence of the plague in Mecca so long as the immense yearly concourse of pilgrims to that shrine continued, and the frequent seizure of cattle, supposed free from the cattle plague, so soon as they reached an infected shore, as illustrations in point. I might also refer to the condition of wild butterflies and moths of other species at the time (1857 and 1858) when the Pebrine had reached its full development in France. Not only M. de Quatrefages himself (Op. cit., pp. 373, 620), but various other observers, noticed that the wild caterpillars were attacked apparently by the same disease as the silkworms. They were found dead in numbers; and he records the information, communicated by different observers at different localities, that the absence of butterflies and caterpillars at that time was peculiarly marked. But that lasted only for a season or two. There was no fresh importation of *graines* in their case to disturb the natural course of the epidemic. It ran its course and disappeared. But this is not the place to argue the question.

To do so satisfactorily would require a careful sifting of the phenomena observed in other epidemics, and the elimination of those due to other causes from those referable to this. All that I can do here is to suggest the explanation. If it be well founded, it is plain that there is a remedy which would save France from the threatened calamity—simply to prohibit the importation of fresh *graines*. The disease, deprived of this fresh fuel, would expire of itself; but the silkworm might not expire too. No epidemic within the knowledge of man has, when left to itself, ever exterminated a breed; a remnant to restore the race has always been left. In a year or two it would begin to restore itself; or, if no remnant were left, it could be safely supplied with *graines* from abroad, when once the country were cleared from the infection hanging about it. The remedy is, no doubt, a sharp one, but so is the disease; and who ever heard of a remedy that was not painful? It would entail, probably, a complete destruction of the industry for one, or perhaps even two whole years; and the distress would, like our cotton distress, be great. Like it, too, it would be afterwards hampered by the loss of good hands who had turned their attention to other occupations during the temporary cessation of their ordinary work; but all that would be got over again; and, if the step were taken now, France would have her silk industry prosperous and buoyant by the time that that of all the rest of the world was in despair.

It is true that no epidemic has ever yet been known to utterly destroy a race; but we have had no experience of an epidemic among insects. This is the first instance that we have had of such an event, and we cannot tell how it may affect them. Its course having been interfered with by man, we cannot say how far the same rules, which we see in epidemics affecting the higher animals, will apply to it. When an epidemic has attacked the higher animals, those who have escaped survive in their own persons; and, as they have proved not to be susceptible to its influence in the first instance, may be regarded as tolerably safe for the future. But the insect is an annual; we are perennials. It dies off, in its own person, naturally each year, and the epidemic next year has to deal, not with an insect which has already passed the ordeal, but with its progeny, which may not be able to do so. The result, then, of an established focus of infection throughout the country may be on the cessation of the introduction of fresh *graines*, sooner or later, to extirpate the whole breed. While things jog on as

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before from year to year, the cultivator will be slow to believe it possible that a time may come when no fresh *graines* are to be had. But the supply hangs upon a thread; when every silk country in the world shall have become infected, then the supply must cease. And we are not far from that stage. Japan and Australia are the only countries now free. When they go, will not the trade collapse, and silk be blotted from the list of textile fabrics. That, indeed, would be a calamity which would come home to ourselves. Our silk spinners and silk weavers, our ribbon makers, our silk mercers, and the thousands who depend on these trades for subsistence, would have their occupation gone, and ruin and starvation would await a large portion of our population. Surely, to avert such a result, not only in this country, but also over a large part of the Continent, deserves that every suggestion which promises escape should be carefully considered; and surely, if by any measure, however stringent, one country could be cleansed from the infection before its spread ends in a complete extinction of the race, and so the threatened ruin be averted, it ought to be adopted.

Introduction of new kinds of silkworm.

At the very time that the epidemic was working its way from its first centres up the Valley of the Rhone, previous to spreading, like a thunder-cloud, over the whole of the south of France, a number of entomologists (unknown to each other and in ignorance of the use to which their inquiries might soon be put) were making experiments on the introduction of different species of silk-producing moths into Europe. At the Exhibition of 1851 not a single exhibit was made of any silk but that of Bombyx mori; but, curiously enough, by 1855 many experiments had been made, and a most interesting collection was shown at the Exhibition of that year by M. Guerin-Meneville, who has since specially devoted himself to this object; and it may justly be said that, as he alone now exhibits in the class of silks produced by other species than the mulberry silkworm, so he is fairly entitled to represent the whole of those who have been working in the same direction. It is to his superior energy, perseverance, and skill that the introduction of new species is almost entirely due. Those have been effectually seconded by the solid patronage extended to him by the Emperor, and also by the co-operation of the Acclimatisation Society of France.

M. Guerin-Meneville's collection in this exhibition is not lighted up by any display of silk-producing insects or other collateral illustration, such as added interest to his exhibition

in 1855; but he states that his present exhibits have not been made with any view to effect, but as a practical index of the progress made in the effort to introduce new species since 1855. The importance and interest of the subject itself is rightly held by him to be sufficient to secure attention without any adventitious aid.

Although, of course, the attempts to introduce new silk-worms have naturally extended to every silk-producing insect on which the experimenters could lay their hands, they have practically been confined to two, which were found the most manageable and most promising. Experiments with other species are now going on both in Europe and abroad, and before another ten years' elapse fresh results will undoubtedly have been obtained; but as the question at present stands, and more especially on the exhibit to be reported on, there have been practically only two kinds seriously tried. M. Guerin-Meneville and some other entomologists consider that they have been dealing with five species, the two to which I allude having been divided by them respectively into three and two species; but other entomologists of not less standing, among whom may be mentioned M. Boisduval, reckon them only as two; and for general purposes it will be sufficient to consider them as two typical forms, of which there are sub-species or varieties, probably produced by the different conditions of the different districts from which they come.

These two typical forms are—

Tusseh moth.

1. The Tusseh moth (Antheræa paphia, or myletta, of entomologists). This insect follows the range of the Himalayas from the most western limits of Bengal, through North India, and thence through Northern China (Mantchouria) into Japan, and in each of these districts—India, China, and Japan—it has assumed peculiarities which have served to distinguish them as above mentioned. (1) The Indian form is the A. paphia, or myletta; (2) the Chinese form is the A. pernyi; (3) the Japanese form is the A. yama-mai.

Arrinda or Ailanthus moth.

2. The Arrinda or Ailanthus moth. There are two forms of this type:—(1) Attacus arrinda, or ricini; (2) Attacus cynthia;—the former from India; and the latter, with a more extensive range, running into Japan.

These two different types, the Tusseh and the Ailanthus, differ essentially from each other.

Figs. 4 and 10 respectively represent the moths of each; fig. 4 being that of the Japanese variety of the Tusseh (Antheræa yama-mai), and fig. 10 the Japanese variety of the Ailanthus worm (Attacus cynthia).

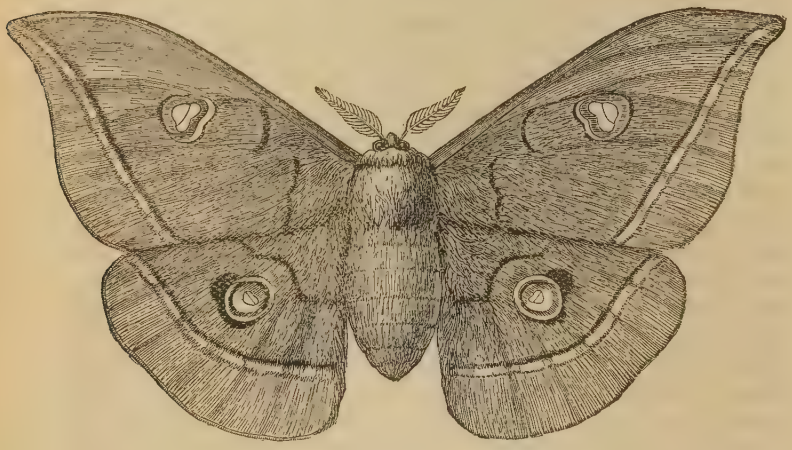

Fig. 4.—Antheræa yama-mai (Japanese variety of Tusseh moth).

Fig. 10.—Attacus cynthia (Japanese variety of Ailanthus silkworm moth).

Figs. 5 and 11 represent the respective full-grown caterpillars of each.

Fig. 5.—Full-grown caterpillar of Antheræa yama-mai (variety of Tusseh moth).

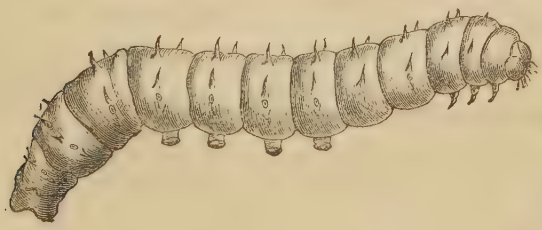

Fig. 11.—Full-grown caterpillar of the Ailanthus silkworm.

Figs. 6 and 7 represent the young caterpillars of the yama-mai at their first and third month.

Fig. 6.—Caterpillar of the Antheræa yama-mai, in its first stage.

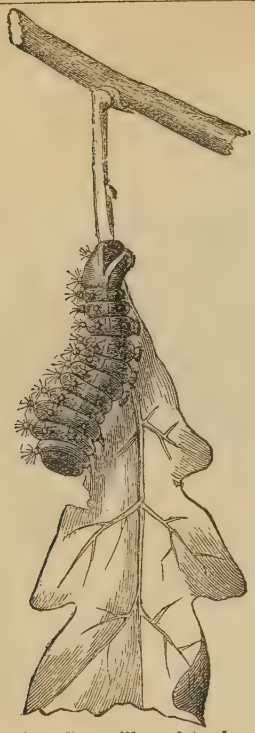

Fig. 7.—Caterpillar of Antheræa yama-mai, in its third stage.

Fig. 8.—Cocoon of Tusseh moth.

Figs. 8, 9, and 12 represent the differences between the cocoons of the Tusseh moth proper, its variety yama-mai, and the Ailanthus moth.

Fig. 9.—Cocoon of Antheræa yama-mai.

Character of the cocoons.

Fig. 12.—Cocoon of the Ailanthus moth.

The difference in the cocoons is perhaps the most important distinction from the point of view from which I have to report, inasmuch as it has an important bearing on their respective capabilities for silk manufacture. The cocoon of the Tusseh is oval and is closed in all round, being constructed on the same principles as the cocoon of the common mulberry silkworm, and can be as easily, or nearly as easily, wound off. The cocoon of the Ailanthus consists of an inner silk case open at both ends, wrapped up in an additional silk covering, which is open in front like a cloak or great coat. There is no reason why this should not be capable of being unwound or reeled off as well as the rounded and entirely closed cocoon of the Tusseh. It has, indeed, been said, that it is owing to the extreme delicacy of the filament of the silk that it cannot be reeled; but this we shall see must be a mistake. That rounded type of cocoon is by many supposed to be like an empty ball of silk already rolled up, and when the gum which holds the threads of silk together is melted that it reels off like a bobbin; but this is not so. If we observe the order in which the thread detaches itself when the cocoon is unwound, we shall see that each turn of the thread does not encircle the entire circumference of the cocoon, as each turn of the thread of a bobbin encircles that of the bobbin; but that, on the contrary, the thread of the silk forms a series of zigzags on the surface of the cocoon as shown in fig. 13, produced by the caterpillar wagging its head from side to side; that, after having made several of these zigzags tolerably close the one to the other in a small space, near one end or near the middle, it proceeds suddenly

Fig. 13.—Mode in which the silk thread of the cocoon is disposed.

to make others at some little distance off, and sometimes at the other end altogether, the insect, when these changes were made, having obviously shifted its place. It uses these zigzags to strengthen first one place and then another, seeming to be guided by no rule, until the outside of the cocoon is completely covered in; and then it has only to fill up and fortify the interior in the same way to the proper thickness.

Difficulty of reeling off the cocoons.

No doubt the placement of the thread in the *open cocoons* will in many respects be very similar; but at the open ends it is turned backwards on itself and laid side by side along the immediately preceding part of the thread, to which it is glued so as to make it appear like one fibre. It must obviously, therefore, be much more difficult to reel the thread off these cocoons; but, within the last two or three years, the difficulty has been conquered by the Countess of Corneillan and by Dr. Forgemol, at Tournau, who have reeled off the silk to the length of 800 yards (the normal length of the mulberry silkworm thread is about 300) in one unbroken thread.

Still, the success is short of what is required for practical purposes. The process of reeling off the cocoons of the common silkworm consists of placing five or six of them in a basin of hot water, and, finding the end of the thread of each, uniting them and winding off the whole five or six into one thread, giving it a particular turn, which is essential. Whether it may be possible to reel off so many at once and give the necessary twist with such irregular cocoons as the open ones of the Ailanthus worm is doubtful—at any rate, I believe it has not yet been done.

Tusseh moth bred in India.

The "Tusseh moth" proper has not yet been introduced, nor is it likely to be so; it requires a hotter climate than any in Europe, and there is no inducement to go to trouble in regard to it, seeing that its silk is already an article of commerce in India, and if we want it we can get as much as we like in the same way that we get the silk of the common silkworm from Bengal. It is cultivated by a species of semi-domestication; but the Mantchourian and Japanese varieties

are wild. The latter do well in the climate of France in the open air, and if it is found desirable there seems no obstacle to their semi-domestication there also.

Tusseh silk. Its quality.

In India the Tusseh silk is used either mixed with cotton or unmixed. It is a hard, most durable silk of a dark brownish colour. When used without mixture it is woven into a kind of cloth called Tusseh-doolhies, which is much worn by Brahmins and other sects of Hindoos. In this state the natives call it Korah. The Europeans settled in India employ it for summer cloths or to cover furniture. It is perfectly fitted for this use, because the stuff, in consequence of its firmness and brilliancy, looks always clean. Nevertheless, this silk, strong though it be, cannot resist very frequent washing, and ends by being cut when it has been subjected to the violent proceedings of the Indian washermen. When the Tusseh silk has been freed from gum and mixed with a little cotton, it is manufactured into more pliable tissues in designs of all forms and different colours. In this state it is extensively used both by the Indians and Europeans.

Ailanthus moth bred in China and Japan.

The Ailanthus or Arrindy moth extends over nearly the same ground as the Tusseh; but, as already said of it, we have only two varieties, the one Indo-Chinese and the other Japanese. The former is reared in a domestic state over a great part of Hindostan, but more especially in the districts of Dinajpur and Rangpur, in houses, and feeds on the leaves of the Ricinus communis, or castor-oil plant, an annual in Europe, a tree in Africa and India, conspicuous for its broad palmate leaves, which have given it the name of Palma christi. From the causes I have above explained, the silk of this species has hitherto never been wound off by the natives, but they were obliged to card and spin it like cotton. Dr. Helfer (Journal Asiatic Soc. Bengal (1837), p. 45) says that it is so productive as sometimes to give twelve broods of spun silk in the year. The Japanese Ailanthus, on the other hand, only has two broods in the year.

Ailanthus silk.

The cocoons of the Arrindy moth are soft and white, or yellowish. After the cocoon is carded and spun, like cotton, the yarn thus manufactured is woven into a coarse kind of white cloth, of a seemingly loose texture, but of incredible durability, the life of one person being seldom sufficient to wear out a garment of it.

The Japanese Ailanthus worm is reared by the natives in Japan in a semi-domestic state, and its silk is said to be largely made use of there, although it does not appear that

it is used for anything but coarse stuff. It feeds on the Ailanthus glandulosa, a Japanese tree, which is now almost as common in France and England as in its native country.

Introduction of the Ailanthus and Tusseh silkworms into France, &c.

Seeing that the Ailanthus moth and two of the Tusseh moths (the A. pernyi and A. yama-mai) come from districts as temperate as that of France, and that all three feed upon plants which grow in the open air in France, no fitter subjects for what the French call acclimatisation could have been selected.

The possibility of rearing them in the open air has been fully proved by hundreds of experiments, and, in fact, the results of these open-air educations has been to naturalize at least one of the species (the Ailanthus moth), several instances being already recorded of this moth or its caterpillar having been found in gardens or places (chiefly in or near Paris) where no Ailanthus moths had been bred.

Open air cultivation.

The advantages of this open-air cultivation are not few. It reduces the management of the education to the preliminary attention to *graines* and the coming out of the young worms, the placing them on the trees, the guarding them from birds (for which a watch is necessary, it need not be an expensive one,—a woman or a boy will suffice, and it is only for a month), and, finally, the collection of the cocoons. After the trees have been once sown with these silkworms, the cultivator has nothing to do but to leave them to browse for about a month, when he will find his harvest hanging to the leaves. It is undeniable that there is a great contrast between the simplicity of this procedure and the buildings, the heating, the numerous workmen required to collect and carry the leaves of the mulberry-tree to the magnanerie, to feed the worms four or five times a day, to clean the shelves and clear away the litter, and to provide and place the branches or heather stalks on which the worms may spin their cocoons. Another advantage dwelt on by M. Guerin-Meneville is that the Ailanthus glandulosa grows well on barren ground, so that the trees required to furnish the food need cost little or nothing for rent (always supposing there to be bad ground on the spot).

There is no comparison between the advantages of each thus contrasted, but it is still to be found out whether the harvest of the Ailanthus cocoon, when the experiment is tried on an industrial scale, will be equally or even fairly abundant; and, assuming it to be all that could be wished in that respect, the more important vital point still remains—*whether the silk of these new worms is worth introducing at all.*

So far as regards the quality of the silk, both of all the Tusseh and Ailanthus worms, we know that it is coarse, ill-coloured, and cannot be placed in competition with the most inferior of mulberry silk. At first, the silk of each, as it was successively brought into notice, was vaunted as being of first-rate quality—as good as mulberry silk in some respects and superior in others. But this high tone has long since been lowered. Dr. Royle, in his "Report on the Resources of India, as exhibited at the Exhibition of 1855," mentions that one French manufacturer had commenced making "some plushlike material," of different colours, of the Tusseh silk. But the mission of silk is not to produce plush; and if that is all that the yama-mai can do, it clearly can never be used as a substitute for mulberry silk. Dr. Royle further, in his "Productive Resources of India," mentions that the Tusseh silk is a coarse, durable silk, which is much esteemed in India both for ladies and children's dresses; for the latter especially, on account of its cheapness and durability. "This silk," said he, "will probably become an extensive article of commerce, as some of it, having been sent on speculation to Paris in its unbleached state, was there employed as a covering for parasols, and was found to answer so well that an instantaneous demand for it sprung up." The price advanced, and the quantity imported increased. In 1835 only 158 pieces; in 1836, 830; in 1837, 2,647; and in 1838, no less than 4,249 were imported. This is a fact by no means in its favour; for, notwithstanding this start, it has made no way, and is not now in the market, so we may assume that on trial it has not been found to answer.

Question whether the Tusseh and Ailanthus silk is worth introducing.

M. Guerin-Meneville, in his later notices of the Ailanthus silk, seems to have arrived at a more correct appreciation of its nature and value. "As to the textile matter," says he, "if we can get it thus at a very low price, it will hold a middle place between silk and wool, under the name of Ailantine, and appears destined to become in France what it has been from all time in China,—the silk of the people" (Rev. and Mag. Zool., 1859, p. 335). M. Guerin-Meneville forgets here, however, the difference between the climate of China and that of France, and that while in the one a light silken vestment is the most pleasant clothing, a good woollen coat will be preferred in the other.

When we recollect, too, what the price of cotton was and is (6*d.* to 2*s.* a lb.), doubts will arise as to the possibility of producing any silk at such a price.

Still, silk is always silk, however inferior, and uses will doubtless be found for it if it is once brought into the market in industrial quantities. This it has never yet been; all these silks

Mr. Murray on Products of Useful Insects.

are wholly unknown in the silk market, and this I regard as the most unfavourable symptom of the whole. If the Tusseh were really good, it would have been imported long since, like the silkworm cocoons from Bengal; and of the others, even the home growth in France should ere now have made some sign. Experiments with the avowed purpose of introducing it have been going on for the last fifteen years, many of them by practical men desirous of making money out of it; and it is still unknown in the market. The question will soon be settled by the experiment now in progress of a regular Ailanthus silk-farm, which has been sanctioned by the Emperor, and is being conducted by M. Guerin-Meneville. But had the silk been really capable of being put to profitable use, I cannot help thinking that some of the many keen men of business in the silk industry who have tried it would have made something of it ere now.

Bee hives.

I should have wished to report on the many contrivances exhibited for housing bees and spoiling them of their honey, but none of the inventions of any importance can claim notice on the score of novelty; apiarians have for so long gone on improving the apparatus for rearing bees, that at last they have left themselves no new worlds to conquer. Any novelties in the apparatus consist merely of slight modifications of discoveries made and exhibited at the Exhibitions of 1855 and 1862. The most remarkable are

Bars and frames.

the bars and frames contrived by Mr. Woodbury some years since, consisting of something like a liliputian empty window-frame, a series of which are hung up in or fitted into the hives, and the bees, by means of impressed guide-sheets of wax, are led to fill up the vacant space with comb and honey. The frames can be removed and plundered, or placed in other hives, or shifted about at pleasure. The impressed guide-sheets of wax are the production of a German inventor, and were exhibited in the Austrian department of the Exhibition of 1862. They have since been purchased and utilised by Messrs. Neighbour and Son. They are especially adapted for these frames, and are, in fact, the foundation on which the bees are invited to form the comb.

Report on Vegetables—(Class 85.)—By Robert Hogg, LL.D., F.L.S.

Dr. Hogg on Vegetables.

The only vegetables that are exhibited in a fresh state are a numerous collection of potatoes, consisting of no less than 158 sorts, in the Prussian department, and a number of esculent roots in the Algerian department. The latter will, perhaps, prove the more interesting to the visitor, as furnishing excellent examples of some of the esculent roots of tropical and sub-tropical regions, which are not frequently to be met with. Among these are large rhizomes of Colocasia odora, C. antiquorum, C. violacea, C. sagittifolia, and C. esculenta. Of these, the last is the one most extensively used. It is known by the names of Egyptian ginger, cocoa-root, eddoes, and yams; but the last name is more properly applied to a very different root. The rhizomes or large fleshy roots of this plant abound in starch, and form an important article of food to the inhabitants of the countries where they are grown. A peculiarity of the flowers is that they have such a cadaverous smell that flies deposit their eggs in them as they would in a dead carcass. Several roots of Canna edulis and Canna discolor are also exhibited, the roots of which are used as food, and numerous varieties of Dioscorea alata, a species of yam, which appears to assume every form of round, long, and palmate in the shape of its tubers. There are also many varieties of the tubers of Batatas or sweet potato—the potato of Shakespeare, which was largely imported every year from Spain and Portugal, under the name of "Spanish potatoes," during the sixteenth century. They are extensively grown in the south of Europe, but are too tender for outdoor cultivation in Great Britain.

Potatoes.

Of dry farinaceous vegetables there are some very extensive collections in the Portuguese, the Italian, and the Russian departments. In the Portuguese will be found a large collection of many varieties of haricots, which, unfortunately, are not distinguished by any special names, thereby precluding the possibility of making allusion to any of them individually. Here may also be seen many samples of "Gesse," or, as it is called in England, chickling vetch. It is the Lathyrus sativus of botanists, and flour made of its seed is used in Italy, Spain, and Portugal for making bread; but so remarkable an effect does it produce on the animal

Dry farinaceous vegetables.

Dr. Hogg on Vegetables.

system that it is necessary to mix it in half the quantity with wheat or other flour. If used alone for any length of time it produces extreme rigidity of the limbs, and swine fed upon it entirely lose the use of these members and become exceedingly fat, lying on the ground. In all the departments already named will be found numerous examples of the ram's-head or chick pea. It will be found marked "Pois Chiche." It has been called by botanists Cicer arietinum, from the great similarity the seed bears to a ram's head; and its English name of chick pea is in allusion to a fancied resemblance it has to a young bird coiled up in the shell. The seed is used in the south of Europe in the same way as we do garden peas, in soups and other dishes; and about Naples the children and common people eat them raw when they are yet tender. By the Spaniards, who call them "carvancos" or "garavanzos," and the Neapolitans, who call them "cece caliato," they are roasted, ground, and formed into an agreeable infusion resembling coffee. A remarkable peculiarity of the plant is that during the excessive heat of summer the leaves and stems sparkle with minute drops of an extremely acid, thin, viscous liquid, which has been found to be oxalic acid in a state of purity.

In the Italian collection of haricots there is one that might be introduced with advantage into English gardens; it is called Fagioli del Giappone, and has been cultivated successfully by the Acclimatisation Society of Paris. It is a small round seed of the shape and colour of a green pea, and its colour would doubtless prove a high recommendation.

Preserved vegetables.

In most of the departments preserved vegetables may be found, but particularly in Holland and Russia. The Dutch are remarkable for the brilliancy of their colour and their fine condition. They consist of carrots, peas, cauliflower, red cabbage, Brussels sprouts, cabbage, chick peas, and turnip-rooted celery. Besides these, in the Russian department there is a large collection of preserved mushrooms.

Report on Fruit Trees.—(Class 86.)—By the Rev. T. C. Bréhaut.

Rev. T. C. Bréhaut on Fruit Trees.

The section of the reserved garden appropriated for the exhibition of trained fruit trees is adjacent to the Ecole Militaire, and runs parallel with it. To reach this section either the whole building must be traversed or a distinct entrance is found at the Porte de Tourville.

A portion of the trained forms is also exhibited at Billancourt, the chief interest being in the garden itself.

As it was impossible to allot sufficient space to the large specimens which best represent this branch of horticulture, or, indeed, to transport any such, the trees in general are too young accurately to illustrate each particular system.

From want, also, of root space, and being necessarily crowded, together with their recent change of situation, a crop of fruit is wanting during the season. Bearing this in mind, there is much which will please the intelligent observer in this section, and an occasion like the present will not readily recur.

Continental horticulture.

Horticulture of late years has made rapid progress, not only in our own country, but also on the continent. While, however, England has utilised the resources of her mechanical skill in producing unrivalled glazed structures for the ripening of exotic fruits, and, especially, by the introduction of orchard houses, has popularized a taste for fruit culture in hitherto unapproachable respects, the continent has remained comparatively indifferent in these matters. It is only, therefore, in the exhibition of trained trees adapted for the open air that the English visitor, and especially the amateur class, now so large, has anything to learn from abroad. But here the French and Belgian horticulturists have always held a high position, and still merit it. Possessing, as they do, climates and soils differing widely from our own, but extending over so comprehensive a range in themselves as to meet ours in various ways, it must prove instructive to remark what general principles are in present estimation among them, and to record wherein these principles have progressed.

Small proprietors.

In considering this, we must not forget that the general subdivision of property in France and Belgium has created

Rev. T. C. Bréhaut on Fruit Trees.

a numerous race of small proprietors, warmly attached to their lands, and eager to secure a good return from them. Such a class becomes an accurate discerner between true and false theories, and is apt to be somewhat slow and impatient of innovation. There are few or no large landed proprietors, as with us, who embark largely in horticultural pursuits of an expensive nature, nor is fruit culture much directed by such as these. But there exist a wide-spread intelligence and a keen sense of what is profitable and useful among the numerous small possessors of land, cultivated by them as a garden of necessity. It is satisfactory then to find that amongst this class also the principles which rule over modern fruit culture have made good progress, and also that the specimens exhibited show a recognition of these principles.

No visitor can fail to remark the general coincidence of taste for regular symmetry of form joined to accuracy of detail. Not a single object can be pointed out which is at variance with this theory. There is literally nothing resembling the irregular and ill-balanced forms so common in England in this section, for which the changeableness of our climate is alleged as an excuse. But even the opponents of regularity of form abroad (and there are some) declare that this regular method of training best suits our English climate. The amateur, and especially the orchard house proprietor, will note with satisfaction many new and admirable specimens perfectly adapted to economise his valuable glass or wall space. Some of these he could hardly expect to find even depicted in horticultural works, so novel are they. Others, though not unknown, have hardly as yet met the attention they deserve.

It will also be evident how much modern ideas respecting fruit culture have been modified of late years. Many more trees, of forms corresponding to the change, are now planted than formerly. A long season, and a succession, comprising new and valuable varieties, are now required by modern taste. The advantages of such a practice are evident, and comprise some of the chief requirements of good culture.

It is instructive and satisfactory to find that the same conclusions have been arrived at in other countries through the same amount of antagonism. And when we discover that this result has been brought about by a class of practical and intelligent men of no great means, we are the more convinced of its soundness.

Schools of continental fruitculture.

There exist, of course, various schools representing phases of continental culture, which, in noticing the objects exhibited, we can assign and distinguish. The oldest form of

these is the Montreuil school, well known, by name at least, in this country. It still flourishes on the continent (in France and Belgium principally), and shows the best style of modern long pruning. It is accurate in detail, eschews all irregularity, is generally good in developed forms, and has some ancient shapes as yet unsurpassed for low walls. One first prize is given to forms shown by M. Chevalier (Ainé), and a second is allotted to M. Gillechens (of Belgium) for trees trained in this style. In our opinion these last will be preferred by English visitors at least. M. Chevalier's trees comprise a 30 feet long "palmette" with horizontal branches, the "coursonnes" of which, "à la Montreuil," are perfect, and recommended to the admirers of long pruning. But even these will join us in agreeing that the intervals between the branches show the inherent defects of this system, being too wide. With closer pruning the crop could easily have been increased by one-third. Another tree, by the same cultivator, is a waved "palmette" with double central leaders, both are wall trees. M. Gillechens shows several fine peach trees (also in the Montreuil style), in which the double central leader is adopted. This plan controls the main sap, aids in constituting the lowest branches, and is one of the very best hints furnished in this section. It is much adopted abroad at present, and recurs frequently here and at Billancourt. Figures 2, 5, 6.

The trees which illustrate another distinct school of much repute abroad, that of Professor Dubreuil, are the oblique or diagonal cordons, chiefly of pear and apple trees. These are nearly all very closely stopped in their shoots; but an interesting specimen of M. Dubreuil's early style is exhibited by M. Gillechens, consisting of a vertical peach cordon, having the side shoots of 12 in. or 15 in. in length. Though close pruning has superseded this fashion it might still be well adapted for peach trees on the open wall in some localities. At any rate, it is new to most visitors.

There are good diagonal (pear and apple) cordons in this section, and also some, by Professor Gressent (a leading name), at Billancourt. These diagonal cordons have been so long recommended by the writer, from his own experience, as very suitable for our climate and wants, that it is hoped a visit to these trees may remove some doubts. In a few years, when better known, they will be universal favourites in England.

In front of these diagonal cordons, here and at Billancourt, will be seen those low lateral apple cordons, trained Figure 1.

Rev. T. C. Bréhaut on Fruit Trees.

on wires, and bearing, on closely stopped shoots, the second season; which, for edgings of borders, will soon become common everywhere. Other crossed cordons of apples may be seen here worthy of notice.

The newest and most modern school, founded by Mr. Grin, of Chartres, is, unfortunately, not represented here, save by imitators. Its influence on modern ideas is, however, visible enough in the minute attention paid to the close summer stopping of the shoots in the growing season, which leaves little to be retrenched at the winter regulation. Formerly, the reverse of this was the rule. It is therefore to be regretted that no specimen of M. Grin's own work is here shown. His extremely close style—bisecting the stipulary leaves—can best be judged by inspecting the trees themselves. Without committing themselves to this very close method, M. Grin's adherents have obtained excellent results.

With modifications rendered necessary by the exigencies of our humid climate, the principles involved in this system are well calculated to succeed, and will eventually (as they have already done in the case of orchard house trees) supersede the older fashions of long pruning.

Figures 2, 5, 6.

Among the wall trees exhibited are excellent double "palmettes," either with the branches trained horizontally, diagonally, or arched downwards. The last fashion, for low walls, in humid localities, is excellent. A "palmette," with double central leaders, and extremities of the branches turned upwards "à la Verrier," is perfect. It is a pear-tree, but this style would suit any variety but the cherry. Specimens of forms with single main leaders are common. The finest is a large peach "palmette à la Verrier." Messrs. Janin and Durand have prizes for apricot and plum trees, and for pyramids. The last present excellent forms, which

Figure 3.

are well adapted to resist the violence of storms. A four-winged pear standard, the extremities of the branches turned sharply upward, and attached to the nearest above, is very

Figure 4.

beautiful. So is a large standard pear at Billancourt, in the centre of what is called the Emperor's garden, by Baltet (Troyes), which is admirably calculated to admit light and air, besides providing resistance against wind.

There are other trained forms which require no notice here. Those described are the most characteristic of modern ideas. They have all the leading points necessary for good fruit culture, such as regular symmetry of form, true balancing of either wing, and close attention to systematic summer stopping of the shoots. The visitor will not find

...ois o... continent. fruitculture.

here the irregular fan which finds so much favour in England, and is surely so out of harmony even with the present taste for geometrical flower-beds, at least in small gardens, where unavoidably visible.

Connected with this subject in some measure is the show of vines at Billancourt. But these are mainly vineyard forms, and should be studied under this idea. M. Charmeux, of Thomery, carries the prize for his system, which is in high repute in France. Some hints for ground vineries may be taken here from the arched vines, which are so prolific. These ground vineries have not been as yet much noticed on the Continent, though of obvious value. Neither are orchard-houses appreciated, though by their means the amateur can afford to look without regret on the best results of a splendid climate. His chief aim should be to utilise any hint afforded by beauty of detail, in which Continentals often excel, and which so well suits for his work.

Trusting to their climate, our neighbours have little faith in the need of such things as tiffany protectors or other appliances, now so well known in England, but not shown here. They are, however, recommended in their best authors, and are as much required in the northern districts (especially near the seaboard) as they are with us. It is to be regretted that none were shown by English houses, as well as some other matters connected with fruit culture. The results of international exhibitions are seen in some fair potted trees from Montpelier, and some ingenious portable shelters for these trees, not without interest and capable of development. In this respect the south of France has borrowed ideas of value from our cultivators which we should have expected the northern districts would first have appreciated.

Potted trees.

On the whole, then, the English visitor may look with much interest on the trained forms exhibited, and note the general agreement of Continental opinion in the value of symmetrical disposition, joined to a much closer attention to detail than as yet obtains in our practice. The increasing conviction that better results can be obtained from the use of more glazed structures (wherein economy of space is a great object, than by following more ancient customs in days when these houses were not so obtainable, will cause any new form to be a valuable hint to follow. Had Continentals adopted such valuable appliances as ground vineries, and especially orchard-houses, the exhibition of this year would have shown far higher results.

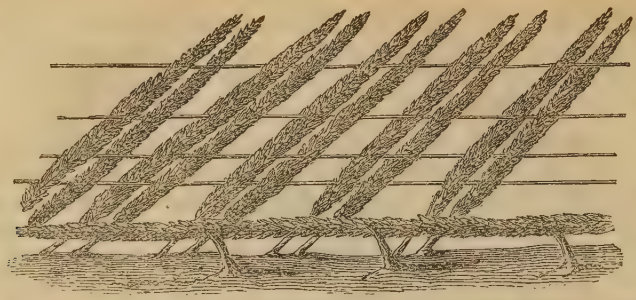

Fig. 1.—DOUBLE ROW OF DIAGONAL PEAR CORDONS.

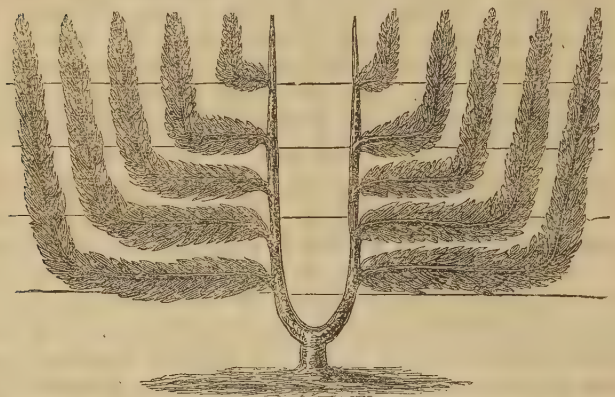

Fig. 2.—DOUBLE PALMETTE À LA VERRIER.

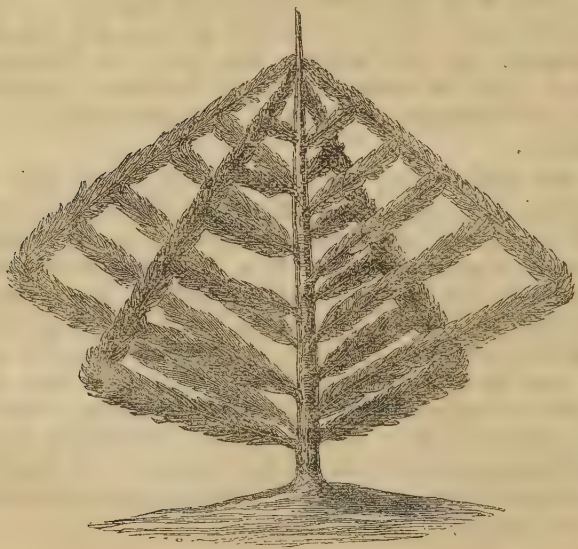

Fig. 3.—STANDARD PEAR TREE WITH FOUR WINGS.

Fig. 4.—STANDARD PEAR TREE AT BILLANCOURT.

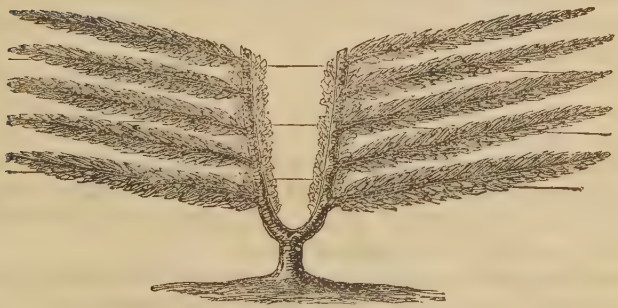

Fig. 5.—DOUBLE PALMETTE WITH OBLIQUE WINGS.

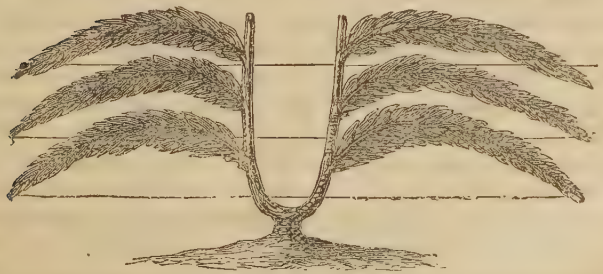

Fig. 6.—DOUBLE PALMETTE WITH ARCHED WINGS.

Rev. T. C. Bréhaut on Fruit Trees.

It will be instructive to glance at the modern style of culture given to each fruit tree, as exhibited in the garden of the Exhibition, and at Billancourt.

The subject matter here treated of is of general interest, but it is capable of such expansion that it is better to restrain it to such forms as were actually shown. We are quite warranted in saying that these may fairly be taken as typical of the *most modern* ideas, and would be considered as such on the continent.

French and Belgian exhibitors.

It is to be regretted that no other countries than France and Belgium were represented in this section. America was necessarily at a disadvantage, owing to the distance of situation, but it is somewhat surprising that no English exhibitor took part in the matter. The same indifference allowed foreigners to take an easy victory at the great international show at Kensington of 1866 in this class.

English.

In making any comparison between the state of fruit culture on the continent, as compared with that in our own country, it must always be borne in mind that much of the land devoted to this purpose is, as regards climate and soil, the best in the world.

Mid-central districts.

The fruit districts of mid-central France are especially favoured by nature, while Belgium has long been known for the excellence of its produce, and the skill of its cultivators.

Sea-coast.

Many districts lying on the sea-coasts are, however, subject to fogs and cold currents as with us, and in these horticulture is more backward.

South districts.

Thus also, in the south of France, horticulture is generally inferior; much neglected standard cultivation is to be seen, and the fruits are of no great value or quality. All these conditions, however, are represented in the Exhibition, and can be readily distinguished. We have thus a large range of experiences from which to form an opinion as to the *actual state* of fruit culture on the continent.

It will be more convenient, for reference, to classify them according to the varieties of fruit trees themselves.

Fruit culture in a state of transition.

In the present day increased attention is given to stocks on which any fruit trees are worked, and a greater variety is employed according to the object proposed than was in vogue formerly. This is due greatly to the change which is taking place in our ideas respecting fruit trees. We now require these to come into bearing as speedily as possible. Many new sorts have been, and are daily being introduced, and

Use of glazed structures.

raised at home from seed. The great use of glass in modern culture has wrought a *complete revolution*, and the time is not distant when it will become still more effectual. All this necessitates a corresponding attention to the trees themselves,

and a studious care how best to develope their respective qualities. The style of training of trees is itself in a *state of transition*, and considerable discussion takes place in the leading horticultural publications in this country and on the continent at the present time, as to the respective merits of these *new systems*. For this reason alone, if for no other, a study of what foreigners consider as the *newest* and the *best styles* must be of interest to the English visitor.

There was exhibited at Billancourt an interesting collection of stocks for fruit trees, some of which are more in favour abroad than with us, and others the contrary.

Apricot culture.

In the case of the apricot, for example, the style of culture devoted to it is different from what it is with us, for this tree requires more sun than we enjoy, and is best cultivated here in orchard-houses where it is excellent.

The stocks most in favour abroad are the free, the plum, the almond, and the black thorn. In Belgium, the free stock, of late, is much in vogue. It forms trees of moderate vigour for pyramids or half-standards, and is thought by the Belgians to favour the stoning process. The plum is what is most commonly employed, as it suits the generality of soils of a moderate consistency, and those exempt from undue moisture. The almond produces trees of large dimensions (such as are in favour in the southern districts of France), and it is precious for rocky soils, and such as are liable to suffer in dry seasons. The black thorn (rarely used) produces feeble trees, and the trees worked on it give a few but fine fruits.

Mode of training.

As the apricot is apt to languish at the extremities (differing in this from most other fruit trees) it, on the other hand, is apt to throw out gross shoots from the base. Hence the necessity of adapting the style of training to remedy this. In England the culture of the apricot is uncertain as to the result, except in peculiar soils and situations. The trees often lose their principal branches, the cause of which is not clearly ascertained. According to Dubreuil, the apricot, as a standard, does not succeed north of the latitude of Paris. Few things more clearly show us the extreme heat of the sun's rays in France than the fact that standard apricot trees should flourish so far north. It is true the varieties are of no great value. Peaches ripen also near Paris with only the aid of the sun till 10 a.m. The apricot loses it flavour when trained against walls. The culture of this fruit, as a rule, is not much attended to in France; only the *most elementary* pruning is given to standard trees, which are largely grown to produce a cheap and abundant market fruit, useful also for preserves. This is much deprecated by writers on horticul-

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tural subjects at present. Standards of the Breda succeed better than the peach apricot.

Apricots "en cordon."

In private gardens the apricot is much trained "en cordon" diagonally. Straw mats, thickly plaited, are placed at the rear of each espalier, and are removed in May, when the dangerous spring frosts are past. Screens of tiffany or canvas are now recommended to preserve the blossoms in the spring. The value of such protections to all fruit trees is not yet *sufficiently* recognized abroad, or at home. Low horizontal cordons, such as are represented in Figure 1, are now advocated. They possess great advantages in ease of shelter from currents of cold air, and also from the radiation of heat from the earth (close to which they lie), and if planted at the feet of other trees (over whom a sheet is drawn for protection), this may be easily made to extend so as to include the horizontal cordons also. In some favoured situations in England this might be attempted, the cordons being at about 12 inches from the earth only, closely pruned, and trained on wires. At any rate such culture would be *quite new* to any English gardener, and if the apricots were alternated with plums, and these intergrafted, some novel results would follow.

Figure 1.

This is *one hint* afforded by an examination of the *best foreign* culture. Walls are not so common abroad as in England in gardens, for many obvious reasons, and when used are rarely so lofty as ours. These are devoted chiefly to the vine, either "à la Thomery," or somewhat wildly running along the upper portions of the walls. These walls are rarely devoted to apricots of course, but where so employed the palmette verrier is what is preferred as a form. This excellent form resembles Figure 2, but is superseded by the *better* and *newer* shape here represented, in which the *double central leader* enables the cultivator to regulate and divide the strength of the ascending sap. Figures 5 and 6 exemplify the popularity of this form of tree.

Palmette verrier.

Figure 2.

There are many varieties of apricots cultivated abroad, which are well known here in orchard houses.

Cherry culture.

The stocks exhibited for the cherry were the well-known Cerasus Mahaleb (Prune de St. Lucie), and the common wild cherry. The Mahaleb is as popular in France as it is in this country. It suits unfavourable soils, and especially certain kinds (Morello and Duke) for bushes, an excellent mode of culture for this fruit. This stock is also employed for wall trees when of no great lateral development; such as are becoming more common. Some kinds of cherries (Bigarreau and Heart, or Guigne) succeed best on the common wild cherry stock. Root pruning of cherries, or indeed of

Root pruning.

any other fruit tree, is not in favour on the continent, nor possibly would their dry evaporating soil require it as in England. Cherries are cultivated everywhere as large standards, very picturesque in the spring, as travellers know, for the market produce and other reasons. Many new varieties of this popular fruit have of late been raised abroad, and in America, and introduced into England.

Training.

Some writers strongly advocate the cordon system for cherry training in private gardens. Some varieties which do not naturally grow strongly are better adapted for this style. Professor Gressent is greatly prepossessed in favour of horizontal cordons, as in Figure 1, and these would be very valuable in many situations in English gardens, and, at any rate, quite novel. Trained at 12 inches from the earth, and grafted, each tree on the next to it, they would occupy but little space as edgings to borders.

Plum culture.

Plums are largely grown as standards for market purposes and for preserves. But, unlike the apricot, the plum improves from a wall. Leading continental authorities, therefore, advocate a portion of wall space being devoted to them, as is the case with us. Pyramids are favourites in private gardens, and plum trees, "en cordon," diagonal and horizontal, both shown in Figure 1, are greatly recommended. An horizontal cordon of plum trees would be, no doubt, successful in English gardens, and has not, as yet, been even thought of. Varieties of feeble growth should be chosen, and the training is similar to the cherry in all respects.

Training "en cordon."

Pear culture.

We come now to pears, which are the staple of French and Belgian gardens. No small proprietor but devotes the greatest share of his garden to the pear, and relies on it as his chief auxiliary. Continentals are essentially economical, and accordingly we find them setting a peculiar value on this fine fruit. Many varieties attest by their names their French and Belgian origin. Possibly the last are most in favour here, owing, partly to the greater similarity of climate, and partly to the skill of Belgian raisers. Of late years, however, much attention has been given by English nurserymen to the kinds best suited to our wants, and they may be trusted from their superior local knowledge. The experience of continental horticulturalists is identical with that of ours, and chiefly of such men as Mr. Thomas Rivers of Sawbridgeworth Nurseries, as to the value of the quince as a stock for the pear. It is mainly by Mr. Rivers that this change has been effected, being *another advance* from systems requiring generations to perfect them. Especially would such a change be beneficial in our English soil, where a surface rooting stock is of the *greatest* value. The free stock forms

Varieties in favour.

Pear stocks.

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larger trees (such as were once in fashion here), but these are *too* slow in coming into good bearing. It is still useful for soils unfavourable to the quince, such as a light, dry, evaporating soil, where the quince languishes. Certain feeble trees are also always grafted on the free stock to invigorate them. Pears in France are occasionally, but rarely, worked on the service tree (Sorbus domesticus), and this produces trees of a vigour intermediate between the quince and the free, and is adapted for silicious soils. The white thorn is sometimes used in France. It lasts a long time, and succeeds where other stocks fail.

Double working.

Double working, especially of English origin, is *unknown abroad*, though its advantages are obvious and great.

Training.

Pears in France are rarely planted against walls. The favourite garden shapes are the pyramid, as with us, and the U shaped, or, as they call it "en gobelet."

Pear tree with wings. Figure 3.

Figure 3 is a representation of a very elegant and useful shape sometimes employed for the pear abroad. Besides the great beauty of its form, so well adapted for the small gardens of the amateur, and most beautiful when in bloom, it has the great *practical merits* of being easy to form (the extremities of each branch, when the decided development has been once attained, being merely turned upwards to those above), a free circulation of light and air is admitted to every portion, and *no violent gale* can injure the branches, nor cause the fruit to become bruised. It is hardly known how great a portion of the pear crop is injured from *this cause* in equinoctial gales, when the fruit is large, and easily bruised. This form may appear to some fantastic, but a closer study of its advantages will not fail to convince the amateur of its real value. The English eye is accustomed to such irregular and ill-balanced shapes that regularity and symmetry of form have not the favour *yet* which they will *eventually* attain to when really understood.

Standard pear tree. Figure 4.

Figure 4 is another very excellent form of standard for pears, exhibited by Baltet of Troyes, one of the best French cultivators, in what was popularly known as the Emperor's garden at Billancourt. In this fine and regular form ample provision is made for trees on any stock to attain considerable lateral development. In fact, the beauty of this form is thereby materially augmented. It is extremely easy to form, as easy, in fact, as the *most irregular* standard; as soon as the branches have attained to the development intended they are sharply turned up vertically, and an upright pole placed under each to which the extremities are attached. Light and air are abundant, and violent gales of wind innocuous. An immense crop can be realized from trees in

this form, the lower branches are constituted regularly, and are not permitted to languish as in pyramids. It is an excellent shape and *much* to be recommended.

Pears "en cordon."

A favourite form of training the pear is "en cordon." The meaning of this term, likely to be the favourite style of future English training of trees, is literally "rope-like," *i.e.*, the shoots on the branches being closely spurred in to 4 inches (according to the variety, some being longer between the buds than others), the trees gradually assume a cable-like appearance.

Cordon training, "pur et simple," is properly used to designate trees planted closely together as a single stem, (though this is frequently augmented to a double or a triple stem), on which stem or main leader the lateral shoots are kept close for fruiting. This system, which is probably one of the *most remarkable advances of modern fruit culture*, originates with Professor Dubreuil of Paris. This earliest system, however, differs from what is in vogue at present, in this respect, that the side shoots are much longer than in the newer mode. Specimens of this first style may be seen at André Leroy's nurseries at Angers, which is the leading French nursery.

The subsequent popularity and success of the *latest and most useful system now known*—that inaugurated by M. Grin of Chartres, near Paris,—induced the modification of the original cordon, so that it has, at length, attained the *true cordon style*, which is so valuable in its results. For orchard-house training and pruning it is admirably adapted, and, no doubt, will eventually exercise a great influence over some ideas as to the proper regulation of fruiting shoots.

The true cordon.

There are several kinds of pure cordons. Of late the name has been extended so as to include trees of larger shapes, nevertheless such was not the case at its origin. The *diagonal* is the best and the purest form, being that which first of all was attempted, and which still retains all its merits.

Diagonal cordons.

Figure 1 shows what is meant by the diagonal cordon ; an *horizontal or lateral cordon* running along the base of the illustration. These diagonal cordons are destined to play a *great part in all future English gardening.* They are adapted for any wall of moderate height, and for amateurs with small gardens are invaluable, enabling such to have a *succession* of leading sorts of fruit, no mean gain. By this method of training, walls are rapidly clothed ; the trees come sooner into full bearing, the fruit is finer in quality, the produce is greater, the formation is simpler than any other, and changes can be better effected than in any other fashion. These are obvious advantages, and it is only surprising such are not

Figure 1.

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better known in England, where every progressive change is readily appreciated. The attention of English amateurs is *especially* directed to these cordons. They are becoming known and liked in North America.

It may be useful here to record the opinions of the very best authorities on the continent on this point, our leading object being to take what *foreigners would themselves* consider as best for English adoption.

Continental opinions.

Professor Dubreuil says, "This form (the diagonal cordon) "is much less difficult to establish than any other, it allows "us to cover regularly all the surface of a given wall in a "much shorter lapse of time, and causes trees to produce "their maximum much sooner, without shortening their "life." There is no writer of greater weight than the Professor on these matters on the continent, and we may also quote the opinions of Professor Gressent, whose works have at this moment the greatest sale abroad, and are sanctioned by the Minister of Agriculture for State Establishments. "I "have," he says, "a marked preference for the diagonal cor- "dons, they are the easiest to form, and their produce alone "excels that of the rest of the fruit garden."

Spiral cordons.

The present writer, long ago, was the first to introduce the diagonal, and also the spiral cordons into this country, and the first-named form has never been equalled for the back wall of orchard-houses, nor the second for the borders of these structures. For pears, on the open wall, nothing at all equals it. It is recommended by the judges of the Exhibition for our English climate, as suiting this style even better than that of France.

Horizontal.

Horizontal cordons are also an excellent style for training the pear as edgings of borders.

Pyramids.

The main crop must always be from standards, such as pyramids, and goblet-shaped bushes for exposed situations. English pear culture in these respects is admirable, considering the trying nature of the climate which requires walls to shield fruit trees. Wall training may also be said to be common in Belgium in exposed parts.

Apple culture.

Apples on the continent are grafted on the free stock, the Doucin and the Dwarf Paradise. The Doucin, probably of French or Dutch origin, is identical with the "Dutch Paradise" of Miller, an old English writer of the last century. It is an excellent surface rooting stock, and produces trees of less vigour than on the crab. It is much used abroad for pyramids, and is considered there free from canker, not so here. It thrives in indifferent soils. The varieties with small leaves are not liked, the true sort has large dark brown leaves, spotted with white.

The French Paradise stock is not exactly identical with what we call Paradise. It is probably the "dwarf apple of "Armenia" of Miller. It has the remarkable property of dwarfing the graft into very miniature trees, very useful for pot culture. Much of the so-called Paradise used in this country is a native seedling, hardier than the French stock, surface rooting, and adapted for the climate. The English Paradise, in fact, has more affinity with the French Doucin. The common crab is used for producing large trees. Apple culture, as yet, on the continent, is in its infancy compared with that of England. Many valuable sorts introduced from America and the Crimea are far better known here, owing to their culture in pots under glass.

Apple cordons.

Apple trees abroad are trained much as pears are, the shoots, however, generally more closely stopped than ours, which is an advantage. The most remarkable apple tree cordon is the horizontal or lateral, "cordons unilatéraux," as the French term them. This cordon, figure 1 (at the base), is that about which so much has lately been written in the "Times" and the leading horticultural journals, and is still much discussed. As it is really *most useful* for edgings for fruit borders, and very suitable for amateurs and others with small means, an authentic account from French sources is here given.

Horizontal cordon. Figure 1.

The trees destined to form an horizontal cordon should be grafted on the French Paradise stock, if the soil be of substantial quality, and do not slope, as such a slope is apt to cause the roots to become denuded from their proximity to the surface. If the soil be not so rich, either the French Doucin or English Paradise stocks are recommended. Wires are placed at 15 inches above the earth, strained through stout posts. On these, maiden trees are bent down, planted at five feet intervals, if on the feebler stock, and at seven if on the stronger. The extremities of the young trees are left free all the summer, and as soon as they are past the tree nearest to them they are grafted into it. Three years is considered the period required to effect this junction with trees on dwarfing stocks. These last are preferable, as they produce finer fruits.

The simplicity and economy of this style cannot be too highly praised. Diagonal cordons for pears and horizontal cordons for apples are *valuable hints* given by this exhibition, though, of course, in use previously. They will soon become popular in this country. Of course the shoots must be pruned back in pure cordon style, *i.e.*, very closely summer-stopped to three or four inches, according to variety.

Peach culture.

Peaches are most commonly worked on the almond stock

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in France. Much of the cultivation in the south is inferior, being in the form of standards of poor varieties, on this stock.

It requires a deep soil, and free from excessive moisture which soon destroys it. The free stock is excellent, less vigorous than the almond, but requires also a substantial and dry soil. The plum (Damask and St. Julian varieties) endures moisture better, and is a favourite. The black thorn is rarely employed, and only for very indifferent soils.

Montreuil culture.

"The cradle of good French peach culture," says Gressent, "is at Montreuil." That is, Montreuil is considered abroad as the best type of ancient modes of training and pruning on the long system, now being superseded by the close system. Montreuil, it is well known, still mainly supplies the Paris markets for peaches from early in August. Before this date the supply comes from Algiers. The peaches of southern France are not good enough to compete with these sources. The climate and soil of Montreuil are unrivalled for this culture, and the names of Lèpere and Malot well known. The walls being generally lower than with us, cause the trees to be trained with a large lateral development. The "old "Montreuil fan" and the famous "Espalier carré" are the *very best* forms of this kind on the Continent. No pure specimen of either was exhibited, which is somewhat strange.

The shoots in this style of tree are extremely regularly trained in. They are excellent specimens of long pruning. Many must have judged of their merits, as seen in other Montreuil forms exhibited (as was previously stated) by Chevalier Ainé, who obtained the first prize, and also by Gillechens, of Belgium, second prize. The regular beauty and symmetry of these shapes cannot be excelled. English gardeners as a rule prefer the irregular fan (not without certain merits of its own), though Seymour's style is very regular and beautiful.

Chartres culture.

But the *most remarkable feature* in modern French culture of the peach is the new system advocated by M. Grin, of Chartres. No pure specimen was shown for some reason or other, which is much to be regretted; the English visitor must, therefore, seek them at Chartres, to judge fairly of their value, in the inventor's own gardens. This peculiar system is the very closest of all close pruning, and has as many warm adherents abroad as strenuous opponents. It is making great progress, however. Intermediate systems of peach culture, much resembling the mixed system so long ago brought forward by our celebrated horticulturist Knight, exist, which cannot be noticed here. Suffice it to say the Montreuil and the Chartres cultures are *diametrically opposed to each other*, and each types of the *best* of their

respective theories. The visitor, therefore, need seek no other spots than these two.

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The palmette verrier, which resembles Figure 2 in every respect except the double central leaders (which is a *great advance*) would be considered one of the best types of good French and Belgian wall culture for peaches. Figures 5 and 6, having also the double central leaders, are excellent forms for good and systematical peach culture; much of it however, is extremely bad abroad.

Peach cordons.

Figures 2, 5, and 6.

In the northern districts, of course, the culture has much the same difficulties to contend with as we have, but even there protecting screens are not yet in favour. In short, good peach culture is confined to districts on the Continent, and very much is inferior.

Peach cordons of the diagonal form are used, but are not very common. This style is not quite large enough for such a kind as the peach, and is not therefore recommendable for our own climate. But for the back walls of lean-to orchard-houses (as first used by the present writer) nothing equals it. Various forms were exhibited, but would be thought too fantastic here; only, therefore, such as are *really practical* have been dwelt on. For example, a waved single cordon would not be relished in this country, forgetting that it is to be seen in the works of our best ancient writers.

Vines.

Strictly confining ourselves to our subject, fruit-trees and their culture on the continent, vineyards would not form a useful item of this report. We can never hope to cultivate the vine profitably on the open wall, and the increased use of glazed structures renders this daily more useless to attempt. With such accessories as ground vineries, no one need seek beyond. Walls of cottage gardens can be more profitably occupied, nor is the famous system of the vine "à la Thomery," as was exhibited by M. Charmeux, the Mayor of Thomery, likely to be adopted here, though the best for open air culture. The grape most cultivated is still the famous Chasselas de Fontainebleau, our royal Muscadine.

Grape culture under glass either in Holland or France presents *no feature* by which English growers could hope to profit. Grapes so raised are always of second rate quality, as Covent Garden testifies. So many proofs have been given of the very *decided superiority* of English grape growing over any Continental results that no question exists on this head. Even the prize taken at the last Exhibition was by Mr. Knight, an Englishman settled in France. The vineyard culture, on the other hand, is a distinct branch hardly

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entering into our subject, very interesting, and in which the French excel. Many of the vines exhibited were of very old stocks extremely well pruned, and vigorous. Some arched vines about three feet in height might give hints for low vineries, being remarkably prolific.

Use of glass.

Continentals are slow to profit by the use of glass. By the adoption of orchard-houses in England, in such places as the Channel Islands, the most beautiful tropical peaches and nectarines can be well matured, and as early as at Algiers. Varieties unknown abroad are becoming common here, and appreciated.

By means of glazed structure erected cheaply fine oranges, such as those exhibited from the Grecian islands, might be ripened in northern latitudes. Late grapes might be thus grown to supply half of Europe at Christmas. Orchard-houses in mid-France would ripen peaches early in June, and be very remunerative. All over the continent glazed structures would create a totally new class of fruit culture, and reverse many an antiquated notion; but this will take long to do, our neighbours are too deeply prejudiced, and too long accustomed to depend on their magnificent soils and climate. The exchange of ideas promoted by international exhibitions may, however, effect something.

Horticultural implements.

The horticultural implements exhibited a certain advance towards English models, chiefly in Russia. The main difference between English and foreign pruning knives appeared to be that the necessary curve was applied abroad to the blade, and with us, to the handle. Excellent pruners were shown by the Brothers Sella, of Piedmont, cheap and well finished. The Prussian forms were very good indeed, and far superior to the Austrian. Turkey showed some elementary shapes. For pruning scissors continentals universally prefer their own secateur, which English pruners object to as fatiguing the hand. Saynor was the only English exhibitor of note in this section, and showed some splendid specimens. The same with respect to other implements used in fruit culture, wherein English workmen greatly excel. There is one feature however, in continental work of this kind, and it is its cheapness.

Report on Seeds and Saplings of Forest Trees.—(Class 87.)—By Dr. Hooker.

Dr. Hooker on Forestry.

Forestry, a subject so utterly neglected in this country that we are forced to send *all* candidates for forest appointments in India to France or Germany for instruction, both in theory and practice; holds on the continent an honourable, and even a distinguished place amongst the branches of a liberal education. In the estimation of an average Briton, forests are of infinitely less importance than the game they shelter, and it is not long since the wanton destruction of a fine young tree was considered a venial offence compared with the snaring of a pheasant or rabbit. Wherever the English rule extends, with the single exception of India, the same apathy, or at least inaction, prevails. In South Africa, according to the colonial botanist's Reports, millions of acres have been made desert, and more are being made desert annually, through the destruction of the indigenous forests; in Demarara the useful timber trees have all been removed from accessible regions, and no care or thought given to planting others; from Trinidad we have the same story; in New Zealand there is not now a good Kandi Pine to be found near the coast, and I believe that the annals of almost every English colony would repeat the tale of wilful wanton waste and improvidence.

Forestry neglected in countries under English rule.

On the other hand, in France, Prussia, Switzerland, Austria, and Russia, the forests and waste lands are the subjects of devoted attention on the part of the Government, and colleges provided with a complete staff of accomplished professors train youths of good birth and education to the duties of state foresters. Nor, in the case of France, is this law confined to the mother country; the Algerian forests are worked with scrupulous solicitude, and the collections of vegetable produce from the French colonies of New Caledonia, &c. contain specimens which, though not falling technically under Class 87, abound in evidence of their forest products being all diligently explored.

Forestry on the Continent.

The collection exhibited by the Administration of Forests of France is by far the the finest of its kind ever brought together; the enumeration of its contents alone fills an instructive pamphlet of 160 octavo pages, classified as follows, and which further contains a great deal of useful

France.

Dr. Hooker on Forestry.

information on the geology of the forest regions, the growth, strength, and durability of timber, and many other matters concerning which no certain information is obtainable in this country. It consists of—

1. Forest map of France, showing the relations between the distribution of the forests and the geology of the country.

2. A collection, in the shape of books, of the indigenous and naturalized woods. Each species is represented by several specimens, differing in their origin and qualities. The specimens, of which there are 1,300, are divided into two classes ; namely, woods of ordinary leaf-bearing trees, and of conifers; these in each class are arranged alphabetically.

3. Collection of truncheons of the most important indigenous species. 223 specimens.

4. Experiments and observations on the density of woods, particularly with regard to age. Specimens exemplifying the opinions given.

5. Collection of seeds and fruits of indigenous and naturalized species.

6. *Corks.*—Complete collection of corks of all ages and qualities, and of French production, furnished by the cork oak (*Quercus suber*) and the western oak (*Quercus occidentalis*).

7. *Barks* and astringent substances suitable for tanning or dyeing.

8. *Resins* from the *Pinus maritima* and *Pinus Laricio;* methods of procuring them, and their various products.

9. *Charcoals.*

10. Different products resulting from the carbonization of wood.

11. Forest sawmills: three models.

12. Instruments for felling, pruning, &c. trees, and for collecting resin. A pusher for directing the fall of trees felled by uprooting. The " Flamm " saw. Rollers for the removal of logs from young plantations without injury to the latter.

13. Relievo of the valleys of Barr and Andlau (Lower Rhine), to show the arrangement of the forest roads established there. Sledge tracks with sledges, tramway with waggons, metalled roads.

14. *Replanting.*—Relievo of the perimeter of the plantations of Labouret, above Digne (Basses Alpes). Photographs of mountains to be laid down with grass or replanted.

15. Photographic forest herbarium, consisting of photographs of the branches with leaves, fruit, and flowers of the various forest trees, all of the natural size.

It only remains to add that the specimens are well selected

and excellent, the method of ticketing leaves very little to be desired, and the arrangement is admirable.

With regard to the other collections, chiefly appertaining to Class 87, the reporter has little to say; there was no English exhibitor, and up to the end of April, when the jurors were called together for the purpose of deciding upon the merits of the exhibitors, there were no collections of any importance ready for adjudication.

Plants.

Further, various circumstances occurred that rendered it impossible to consider certain collections of plants, some of whose contents might be considered as referable to Class 87 from other cognate classes, and it hence became necessary to amalgamate the duties of Class 87 with those of other classes, including that class under which hardy conifers more naturally came, as objects of landscape gardening or ornamental planting, and not of forestry proper. Under this head comes the beautiful collection of hardy conifers of Messrs. Veitch and Sons, to which the first prize was awarded, with the full complement of marks; and the same firm carried off the first prize for a collection of the rarest Coniferæ not yet in commerce.

Billancourt.

The collection at Billancourt, which did not exist in April, was visited by Dr. Moore, F.L.S., associate juror, in August, and he found many very interesting plants suited for forest purposes amongst them, but they were not exhibited under Class 87, and I shall therefore allude to them here in reference to their being probably, at some future period, introduced into plantations in such considerable quantities as to be profitable as timber trees.

French exhibitors of forest trees, &c.

M. Accidin, aîné, nurseryman, Lisseux, was awarded the first prize for a collection of forest conifers, which consisted of the kinds usually selected for the same purpose in England, along with many rare species which are not yet sufficiently abundant for forest planting, though they may yet become suitable for that purpose when the prices at which they now sell are lowered at least 90 per cent. *Pinus grandis, Pinus nobilis, Pinus Nordmanniana, Pinus Benthamiana, Pinus Coulteri,* &c., all of which were in this collection, are not likely to be either moderate in price or plentiful for many years to come. There were equally rare *Thujas* and Cupressus in this collection, as well as other scarce coniferæ, which obviously cannot be considered under Class 87.

M. Accidin had also a large collection of trees generally used in forest planting, such as oaks, Juglans, willows, &c. Among the oaks, *Quercus castanæfolia, ambigua, aquatica, haliphlæos* were fine foliaged kinds.

Dr. Hooker on Forestry.

M. Rissot, Inspector of the Forests of the Bois de Boulogne, exhibited a good collection of conifers, more suitable in general for forest planting; among which were some Mexican species of *Pinus*, which seemed hardy looking kinds. The same exhibitor had also a good general collection of forest trees.

M.M. Crox and Sons, nurserymen, at Sceaux, Seine, exhibited good collections, similar to those of M. Accidin.

M. L. Paullet, Chatmay les Sceaux, près Paris, exhibited a large number of conifers, including *Wellingtonias* and *Araucarias*, among the forest group.

M. Troyes, horticulturist, Tours, had also a collection of a more general kind. Among the plants in this group were *Symphoracarpus mexicana*, a fine looking plant, if sufficiently hardy.

Pruning.

A series of plants were also exhibited for the purpose of showing the effects of pruning by different methods, preparatory to planting in forests and in towns, as well as for ordinary ornamental purposes. This was not a successful exhibition, as many, in fact nearly all, the trees which had been brought for the purpose were dead, owing to their having been removed at a late period of the year.

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REPORTS

ON THE

PARIS UNIVERSAL EXHIBITION, 1867.

VOL. VI.

CONTAINING

THE RETURNS

RELATIVE TO

THE NEW ORDER OF REWARD.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

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PARIS UNIVERSAL EXHIBITION, 1867.

NEW ORDER OF REWARD.

1.

EXTRACTS from the Regulations respecting the Nature of the Rewards and the Composition of the Jury appointed to award them. Approved by Imperial Decree, 9th June, 1866.

(See London Gazette, 26th June, 1866.)

IV.—*Special Arrangements respecting a new Order of Reward.*

Art. 30. A distinct order of reward is instituted in favour of the persons, establishments, or localities which, by a special organization, or special institutions, have developed a spirit of harmony among all those co-operating in the same work, and have provided for the material, moral, and intellectual well-being of the workmen.

These rewards consist of ten prizes, of the total value of 100,000 francs (4,000*l.*), and twenty honourable mentions;

One grand prize of 100,000 francs may, in addition, be awarded to the person, establishment, or locality, dis-

---

Dispositions spéciales concernant un Nouvel Ordre de Récompenses.

Art. 30. Un ordre distinct de récompenses est créé en faveur des personnes, des établissements ou des localités qui, par une organisation ou des institutions spéciales, ont développé la bonne harmonie entre tous ceux qui coopèrent aux mêmes travaux, et ont assuré aux ouvriers le bien-être matériel, moral et intellectuel.

Ces récompenses comprennent, dix prix d'une valeur totale de cent mille francs (100,000f.), et vingt mentions honorables.

Un grand prix indivisible de cent mille francs (100,000f.) pourra être en outre décerné à la personne, l'etablissement

tinguished under this head by a very exceptional superiority.

Art. 31. A special jury will judge of the merit specified for this order of reward, and will determine the amount of the prizes and the form in which they will be awarded.

One of the Vice-Presidents of the Imperial Commission will act as President of this jury.

The total number of members, including the President, is fixed at twenty-five.

The number of members which the different countries will contribute to this jury is shown in the accompanying Table (column *e*, Page 4).

The Secretary of the Imperial Commission will act as its Secretary.

Art. 32. In the event of members not being nominated before the 1st December, 1866, in conformity with Art. 3, the Imperial Commission will select the foreign jurors from amongst the persons accredited to them by the various governments.

Art. 33. The number of members of the jury who must be present to form a quorum, is fixed at 18. The prizes and honourable mentions will be awarded according to the majority of votes. The grand prize can only be awarded by a majority of two-thirds.

---

ou la localité qui se distinguerait, sous ce rapport, par une supériorité hors ligne.

Art. 31. Un Jury spécial apprécie les mérites qui sont signalés pour cet ordre de récompenses et détermine la quotité des prix et la forme sous laquelle ils sont décernés.

La présidence de ce Jury appartient à l'un des vice-présidents de la Commission impériale.

Le nombre total des membres est fixé à vingt-cinq, y compris le président.

La répartition entre les diverses nations est fixée dans le tableau B (colonne *e*).

Les fonctions de secrétaire sont remplies par le secrétaire de la Commission impériale.

Art. 32. A défaut de nomination notifiée avant le 1er Décembre 1866, conformément à l'article 3, la Commission impériale choisit les Jurés étrangers parmi les personnes accréditées auprès d'elle par les divers gouvernements.

Art. 33. Le nombre de membres présents nécessaire pour rendre valables les décisions du Jury est fixé à dix-huit. Les prix et les mentions honorables sont attribués à la majorité des voix. Le grand prix ne peut être décerné qu'à la majorité des deux tiers.

Art. 34. Applications and documents describing and pointing out for the new order of reward a person, an establishment, or a locality, must be transmitted before the 1st December, 1866, to the Councillor of State, General Commissioner.

Art. 35. The first session of the jury will be held on the 1st December, 1866, in order that they may lay down the regulations for the guidance of applicants, and commence their investigations.

Art. 36. In a second and last session, from the 15th April to the 14th May, 1867, the jury will come to a final decision on the apportionment of the prizes, and on the persons, establishments, or localities to which they are to be awarded. These prizes will be distributed at the same time as the other rewards, namely, on the 1st July, 1867.

Done and discussed by the Imperial Commission the 7th June, 1866.

E. Rouher,
Minister of State, Vice-President.

E. B. De Chancourtois,
Secretary.

True copy.
F. Le Play,
Councillor of State, General Commissioner.

Art. 34. Les demandes et documents destinés à signaler, pour le nouvel ordre de récompenses, une personne, un établissement ou une localité, doivent être adressés, avant le 1er Décembre 1866, au Conseiller d'État, Commissaire général.

Art. 35. Le Jury tient une première session le 1er Décembre 1866, afin d'arrêter les règles à suivre pour l'instruction des demandes et de commencer leur examen.

Art. 36. Dans une seconde et dernière session, du 15 Avril au 14 Mai 1867, le Jury arrête définitivement la répartition et la destination des prix. Ces prix sont distribués en même temps que les autres récompenses, le 1er Juillet 1867.

Fait et délibéré par la Commission impériale, le 7 Juin 1866.

Le Ministre d'État, Vice-Président,
Signé E. Rouher.

Le Secrétaire,
Signé E. B. de Chancourtois.

Pour ampliation :
Le Conseiller d'Etat, Commissaire général,
Signé F. le Play.

2.

Apportionment of the Members of the International Jury amongst the different States.

Names of States. (Arranged according to the Order of the Spaces occupied by them in the Palace).	Juries for the Fine Arts, Agriculture, and Industry.				Special Jury for the New Order of Reward. (See IV.)	Total for each State.
	Members of Juries of Classes. *a.*	Presidents of Juries of Groups. *b.*	Vice-Presidents of Juries of Groups. *c.*	Total for each State. *d.*	*e.*	*f.*
France	239	5	7	251	9	260
Netherlands	4	—	—	4	*(1)	4
Belgium	23	—	1	24	1 (1)	25
Prussia	27	1	1	29	1	30
Minor States of Germany.	27	1	1	29	1	30
Austria	27	1	1	29	1	30
Swiss Confederation	10	—	1	11	1	12
Spain	7	—	—	7	1 (2)	8
Portugal	4	—	—	4	*(2)	4
Greece	4	—	—	4	*(2)	4
Denmark	3	—	—	3	*(3)	3
Sweden and Norway	8	—	—	8	1 (3)	9
Russia	11	—	1	12	1	13
Italy	20	—	1	21	1 (4)	22
Pontifical States	1	—	—	1	*(4)	1
Roumanian Principalities.	1	—	—	1	*(5)	1
Ottoman Empire	5	—	—	5	1 (5)	6
Egypt	1	—	—	1	*(5)	1
Various Asiatic States	2	—	—	2	1	3
Persia	1	—	—	1	*(5)	1
Various African States and Oceania.	2	—	—	2	*(5)	2
United States of America.	8	—	1	9	1	10
Various American States.	5	—	—	5	1	6
Great Britain and Ireland.	77	2	3	82	3	85
Totals	517	10	18	545	25	570
Reserved						30
Total						600

c. The asterisks with reference to numbers indicate the groupings together of countries which have been found necessary in order not to exceed the number (25) for the Jury of the new Order of Reward. The apportionment of a juror to the country most largely represented is only done here for the sake of regularity.

3.

LIST OF MEMBERS OF THE SPECIAL JURY, on the 1st of December 1866, in the Order of Arrangement of the Spaces occupied by the various States in the Palace of the Champ-de-Mars.

France.—His Excellency M. Rouher, Minister of State, Vice-President of the Imperial Commission; His Excellency M. Béhic, Minister of Agriculture, Commerce, and Public Works, Vice-President of the Imperial Commission; His Excellency Marshal Vaillant, Minister of the Emperor's Household and of the Fine Arts, Vice-President of the Imperial Commission; His Excellency M. Magne, Member of the Privy Council, Senator; His Excellency Mgr. Darboy, Archbishop of Paris, High Almoner to the Emperor, Senator; M. Schneider, Vice-President of the Corps Législatif; M. Alfred Le Roux, Vice-President of the Corps Législatif; M. Paulin Talabot, Deputy of the Corps Législatif; M. F. Le Play, Councillor of State.

Netherlands and Belgium.—M. Ch. Faider, President of the Academy of Sciences, Literature, and Fine Arts of Belgium, formerly Minister of Justice, First Advocate-General of the Court of Cassation.

Prussia and the Northern States of Germany.—M. Herzog, Privy Councillor for Commerce, Industry, and Public Works.

Hesse, Baden, Wurtemberg, and Bavaria.—M. de Steinbeiss, President of the Royal Council of Wurtemberg for Trade and Industry.

Austria.—M. le Chevalier de Schœffer, Court and Ministerial Councillor.

Switzerland.—M. Dubochet, Vice-President of the Swiss Benevolent Society, President of the Executive Committee of the Swiss Asylum for the Aged in Paris.

Spain.—M. le Comte de Moriana, Marquis of Cillernelo, Vice-Royal Commissioner.

Portugal and Greece.—M. le Comte D'Avila, Peer of the Kingdom of Portugal, Minister of His Majesty the King of Portugal at Madrid.

Denmark, Sweden, and Norway.—In the absence of M. le Docteur Charles Dickson, M. de Fahnehjelm, Chamberlain of His Majesty the King of Sweden and Norway, Commissioner of the Kingdom of Sweden at the Universal Exhibition.

Russia.—M. V. de Porochine, Professor of Political Economy.

Italy.—M. le Chevalier Marc Minghetti, Deputy of the Italian Parliament, formerly President of the Council, Corresponding Member of the Institute of France.

United States of America.—Mr. Charles Perkins.

Secretaries.—MM. B. de Chancourtois, Secretary; et Cumenge, Assistant Secretary to the Imperial Commission. Secretaries for inquiries, MM. Donnat et F. Monnier, Heads of Division in the Commissariat Général.

4.

[*Extract from Moniteur Universel, Thursday, 13th December* 1866.]

Special Jury for the New Class of Rewards.

The regulations of the 7th of June 1866, approved by the Imperial Decree dated the 9th of the same month, established a distinct class of Rewards "in favour of individuals, esta- "blishments, or localities which, by an organization or by "institutions of a special character, have developed a spirit of "mutual goodwill among all persons co-operating in the same "work and have assured the material, moral, and intellec- "tual welfare of the workmen."

[*Extrait du Moniteur Universel du* 13 *Décembre* 1866.]

Jury Spécial du Nouvel Ordre de Récompenses.

Le règlement du 7 Juin 1866, approuvé par décret impérial du 9 Juin suivant, a institué un ordre distinct de récompenses "en "faveur des personnes, des établissements ou des localités qui, "par une organisation ou des institutions spéciales, ont développé "la bonne harmonie entre tous ceux qui coopèrent aux mêmes "travaux, et ont assuré aux ouvriers le bien-être matériel, moral "et intellectuel.

In accordance with the terms of Article 35, the International Jury specially appointed to judge of this order of merit held its first meeting at the Palais de l'Industrie on 1st December 1866, under the presidency of the Minister of State, Vice-President of the Imperial Commission. More than 200 claims received by the Commissaire Général or by foreign commissioners were submitted to the Jury.

New and important applications having been announced by several members, the Jury decided to postpone the last day for the delivery of claims and statements of particulars to the Commissariat Général until the 31st of January 1867, instead of the 1st of December 1866, the date previously appointed.

Foreign claims must be transmitted to the Commissariat Général through the medium of the Commissions appointed by each Government, and of their representative on the Special Jury.

On this occasion it was considered desirable that the programme of the competition should be more fully detailed, the Imperial Commission having merely indicated its object in very general terms.

In the first place the following principles were adopted:—

1st. The Jury may doubtless take into account, among the facts presented for its consideration, the spirit of charity

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Conformément aux termes de l'art. 35, le Jury international spécialement institué pour apprécier cet ordre de mérite a ouvert sa première session, au Palais de l'Industrie, le 1er Décembre 1866, sous la présidence de S. Exc. M. le Ministre d'Etat, vice-président de la Commission impériale (1). Plus de deux cents demandes parvenues au commissaire général ou aux commissaires étrangers ont été placées sous les yeux du Jury.

De nouvelles et importantes candidatures ayant été annoncées par plusieurs membres, le Jury a décidé que le terme du 1er Décembre 1866, fixé pour la remise des demandes et des pièces d'instruction au commissariat général, serait prorogé au Janvier 1867.

Les demandes étrangères devront être envoyées au commissariat général par l'entremise des commissions instituées par chaque gouvernement, et de leur délégué dans le Jury spécial.

A cette occasion, le Jury a cru devoir donner quelque développement au programme du concours dont la Commission impériale n'avait fait qu'indiquer le but d'une façon sommaire.

Quatre principes ont été posés dès l'abord :

1° Le Jury peut sans doute apprécier, dans l'ensemble des faits qui lui sont présentes, l'esprit de charité et de bienfaisance ; mais

and beneficence; but it is not specially charged to reward acts of that character.

2nd. To constitute them the basis of a claim to reward, the facts adduced must have been the consequence of a free and spontaneous initiative, and not of legislative enactments.

3rd. It will not suffice that the work be praiseworthy in itself; it must at the same time be compatible with sustained and progressive prosperity.

4th. The circumstances of the position in which competitors may be found should be duly considered. To have maintained intact traditional conditions of harmony and happiness, whilst progressing in agricultural or industrial pursuits, is a good ground of claim; but the introduction of improvements where antagonism and suffering previously existed is not less meritorious.

The Jury considers it desirable, with a view to obtaining complete information, and as an element for consideration in making its awards, that the demands should be accompanied by historical and statistical summaries, and by a statement of every circumstance which may serve to characterize the origin, development, and prosperity of the undertakings.

As regards the double object of the competition, the state of harmony and the state of well-being, candidates are at full liberty to select for themselves the best means of showing that they have attained or approximated to this object.

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il n'a pas spécialement pour mission de récompenser les actes de cette nature.

2° Pour être invoqués comme titres à une récompense, les faits constatés doivent être la conséquence d'une initiative libre et spontanée, et non le résultat de prescriptions législatives.

3° Il ne suffit pas qu'une œuvre soit louable par elle-même ; il faut qu'elle se concilie avec une prospérité soutenue et progressive.

4° Les conditions du milieu dans lequel se trouvent les concurrents doivent être prises en considération. C'est un titre que de maintenir intactes des conditions traditionnelles d'harmonie et de bien-être, tout en développant l'agriculture ou l'industrie ; mais ce n'est pas un moindre mérite que d'introduire des améliorations là où existait un état d'antagonisme et de souffrance.

Le Jury croit utile, pour la régularité de l'instruction et comme élément d'appréciation, que les demandes soient accompagnées de précis historiques et statistiques, et de tout ce qui peut caractériser l'origine, le développement et la prospérité des exploitations.

En ce qui concerne le double but du concours, l'état d'harmonie et l'état de bien-être, les candidats demeurent entièrement maîtres de choisir les meilleurs moyens de prouver qu'ils ont atteint le but, ou qu'ils s'en sont rapprochés.

The following may be instanced as symptoms of the existence of a spirit of harmony,—long continuance of co-operation; permanence of satisfactory relations; absence of irritating discussions on the subject of wages.

Among the symptoms of the existence of happiness may be mentioned savings' bank deposits of proportionally considerable amount, ownership or permanent possession of house, with or without rural out-premises (*dependances rurales*), combination of agricultural and manufacturing pursuits, subventions, practices, and institutions generally adapted to render the position of the workman more stable, and to provide for exceptional cases.

The following points will not be less worthy of consideration:—Habits of life which admit of the mothers of families remaining at home, and measures taken to protect young girls, the conditions of whose employment necessitate their leaving home; systems of premiums, payment by the piece, and any other arrangements relative to wages likely to improve the quality of the work and to stimulate the workman's energy and spirit of initiative; relief funds, asylums, participation in life assurances; practices and institutions of all kinds which tend to improve the material condition of the work-people, and to secure for them a provision in case of future need; schools and other institutions for the promotion

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Parmi les symptômes de l'état d'harmonie, on peut signaler: la longue durée de la coopération; la permanence des bons rapports; l'absence de débats irritants relatifs aux salaires.

Parmi les symptômes de l'existence du bien-être, on peut invoquer: la formation d'une épargne relativement considerable; la propriété ou la jouissance permanente de l'habitation, avec ou sans dépendances rurales; l'alliance des travaux agricoles avec les travaux manufacturiers; les subventions, et en général les pratiques ou les institutions, ayant pour but de donner plus de stabilité à l'existence de l'ouvrier et de pourvoir aux circonstances accidentelles.

Il y aura lieu d'envisager également:

Les habitudes et les mesures ayant pour effet de laisser la mère de famille au foyer domestique, et de protéger les jeunes filles appelées au dehors par le régime du travail, les systèmes de primes, de rétribution à la tâche, et toutes autres combinaisons de salaires propres à améliorer le travail, et à stimuler chez l'ouvrier l'énergie et l'esprit d'initiative; les caisses de secours, de retraites, de participation aux assurances sur la vie, et les pratiques et institutions de tous genres tendant à améliorer la condition matérielle des ouvriers et à assurer leur avenir; les écoles et les autres institutions tendant à améliorer la condition intellectuelle et morale.

of morality and intelligence. In fine, it will be well to mention whatever efforts have been made to repress or to prevent the spread of vicious habits.

The Jury has not thought it right to exclude from the competition individuals or societies which, although not engaged in agricultural or manufacturing pursuits, have founded durable and prosperous institutions, contributing to the propagation of good feeling and happiness, of which it is desirable to seek the best examples.

Having completed the programme of the competition, the Jury proceeded to adopt the following regulations respecting the method of examining claims, the arrangement of the candidatures, and the assignment of the rewards: —

1st. A Jury of the same nationality as the claimant, or one representing that nationality, will make the first examination of the claim. This Jury will see that the statements of particulars are as complete as possible, and will address the papers, together with its own opinion (*avis*) of the claim, to the Commissariat Général, before the 31st of January, 1867.

2nd. A Commission, consisting of all members of the Jury present in Paris, will sit from day to day for the purpose of investigating claims. If necessary it will appoint for each case to be examined a second Jury, the members of which will be of nationalities other than that of the person whose

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Enfin, il est à propos de faire connaître les efforts qui ont été faits pour réprimer les habitudes vicieuses ou en prévenir la propagation.

Le Jury n'a pas cru devoir exclure du concours les personnes ou les sociétés qui, sans être engagées dans les travaux agricoles ou manufacturiers, ont fondé des institutions durables, prospères, contribuant à établir l'harmonie et le bien-être dont il s'agit de rechercher les meilleurs exemples.

Après avoir tracé le programme du concours, le Jury a arrêté les règles suivantes concernant le mode d'instruction des demandes, le classement des candidatures et l'attribution des récompenses.

1°. Un juré de la nationalité intéressée ou représentant cette nationalité fait la première instruction de la demande. Il complète les informations par tous les moyens en son pouvoir, et adresse le dossier au commissariat général, avec son avis, avant la date du 31 Janvier 1867.

2°. Une commission, formée de tous le membres du Jury présents à Paris, siége en permanence et procède aux enquêtes. Elle délégue, s'il y a lieu, pour chaque enquête un second juré désigné en dehors de la nationalité intéressée. D'après les

claim may be in question. Acting on the reports of the examinations, the Jury will prepare a class-list of the candidatures admitted to competition.

3rd. A committee of seven members nominated by the President, will sit from the 15th to the 31st of March, 1867, for the purpose of summing up the work of examination and inquiry. It will draw up a list of sixty candidatures arranged in order of merit, none being bracketed equal, and will appoint reporting numbers charged with the duty of supporting its propositions before the Jury.

4th. In its second session, from the 14th of April to the 15th of May, the Jury will deliberate upon the class-list presented by the committee; at the same time reserving to itself until the last moment the right of giving a place to claims which the committee may have eliminated. The result of the discussions held on each successive candidature will be stated in a class-list definitively settled.

5th. Finally, the Jury will determine, in accordance with this last-mentioned list, the distribution and assignment of the prizes and honourable mentions.

A concluding observation may be added to the preceding instructions which answer the numerous inquiries of claimants respecting the terms of the competition.

It is necessary to obviate the effect of those feelings of

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comptes rendus des enquêtes, elle prépare le classement des candidatures admissibles.

3°. Un comité de sept membres, nommé par le président, siége du 15 au 31 Mars 1867 pour résumer les travaux d'instruction et d'enquête. Il établit une liste de classement de soixante candidatures rangées par ordre de mérite sans *ex æquo*, et désigne les rapporteurs chargés de soutenir ses propositions devant le Jury.

4°. Le Jury, dans sa seconde session, du 14 Avril au 15 Mai, met en délibération la liste de classement présentée par le comité, se réservant d'ailleurs jusqu'au dernier moment la faculté de remettre en ligne les demandes éliminées. Les débats, ouverts successivement sur chaque candidature, sont résumés par une liste de classement définitivement arrêtée.

5°. Le Jury, fixe enfin, d'après cette dernière liste, la répartition et la destination des prix, ainsi que l'attribution des mentions honorables.

Un dernier avis doit être ajouté aux renseignments précédents qui répondent aux nombreuses questions posées par les intéressées sur les conditions du concours.

Il est nécessaire de prévenir l'effet des sentiments de réserve

extreme reserve which have hitherto prevented the presentation of many applications. The Jury would therefore remark, that the initiative of claims is not restricted to competitors alone, and it invites competent persons to bring under its observation meritorious cases which appear especially deserving of examination.

The study of the documents already addressed to it has enabled the Jury to appreciate the utility of this new competition, and it considers that by pointing out examples of well-being and social harmony those to whom the present appeal is directed will render a service of public benefit.

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extrême qui ont arrêté jusqu'à ce jour la présentation de plusieurs candidatures. Le Jury rappelle donc que l'initiative des demandes n'appartient pas aux seuls concurrents. Il invite les personnes compétentes à mettre en lumière les mérites qu'elles trouveraient particulièrement dignes d'examen.

Le Jury a déjà pu, par l'étude des documents qui lui ont été adressés, apprécier l'utilité du nouveau concours. Il pense qu'en signalant les examples de bien-être et d'harmonie sociale, les personnes auxquelles il fait appel accompliront une œuvre de bien public.

5.

Letter from the Imperial Commission on the Method of Examining Applications.

Paris, Champ de Mars,
Avenue de la Bourdonnaye,
Sir, 1st February 1867.

At a meeting of the Permanent Commission of the Special Jury, held on the 14th ultimo, it was decided to place in the hands of reporting members, for the purpose of being communicated by them to the different competitors, copies of a Schedule corresponding to the original instructions relative to demands.

By the use of this Schedule, competitors will be enabled to indicate without difficulty the specific meritorious qualities to which they lay claim.

I have the honour to transmit to you twenty copies of the document in question; and I am to request your particular attention to the last line on page 1, where a space is left blank

for the insertion of the address to which the Schedule should be forwarded to you.

I have, &c.
(Signed) E. B. De Chancourtois,
Secretary to the Jury.

Henry Cole, Esq., C.B.,
Executive Commissioner and Secretary
to the British Commission.

6.

Memorandum.

The Permanent Commission in its first sessions considered what method should be adopted in order to enable the representatives of each country to state, in a form at once concise and admitting of ready comparison with other statements, the results of the preliminary examination entrusted to them.

Their deliberations on the subject have resulted in the adoption of the accompanying Schedule. The Members present, considering that it would be convenient for their colleagues as well as for themselves to make use of the Schedule in question, decided that each Member should be furnished with a copy, it being understood that the adoption of it was not to be at all obligatory.

It will be seen on reference to the Schedule, that its first column contains a statement under twelve different heads, of the various distinctive merits enumerated in the Programme adopted by the Jury in its first session.

The Commission have directly recognised the fact, on the one hand, that these different merits were not of equal importance, and that they must accordingly be classified in an order corresponding to their relative value; and after considering the matter at a Special Meeting, the Commission resolved that a number should be assigned to each head of merit, for the purpose of showing its relative importance, the first head being considered as unity. This number is placed in the second column of the Schedule. On the other hand, it appeared to be probable that cases would occur presenting merits not specified in the Programme; and the Commission have therefore reserved a thirteenth space for such cases, leaving it to the Juror entrusted with the preliminary examination to estimate the importance of exceptional merits.

The third column is intended for the insertion of a note of the value assigned to each of the heads of merit. The Commission has adopted for these notes the scale 0 to 20; it being understood, however, that the figure 20 represents a degree of excellence only to be met with in very exceptional instances.

The Juror will specify in detail, on the 2nd page of the Schedule, the facts in consideration of which he may enter a number in the third column.

The fourth column is reserved for the product of the figures in the second and third columns; and at the foot of the fourth column an entry will be made of the total of the numbers.

The approximation, more or less remote, of this total to the possible maximum of 820, will present a criterion of merit which may be easily appreciated and readily compared.

It will also be the duty of the Juror to propose for rewards such Candidates as may appear to him to be deserving of the distinction.

Candidates whom the Juror may not consider entitled to an honourable mention may, nevertheless, by way of reward, be mentioned in the Report of the Jury; so that the proposal of a Juror may consist in the recommendation of Candidates for such notice in the Report.

As certain statements may be open to doubt, a series of blank spaces has been reserved on page 4 of the Schedule for special entries, corresponding to the different heads of merit enumerated on page 2.

The Commission considered that it might be useful to have, as a specimen of this mode of procedure, one of the requisitions which have been drawn up in accordance therewith, and submitted to them during their last session. The Schedule relating thereto is sufficient to show, *primâ facie*, that the case is one which may be classed, provisionally, among the number of those qualified to compete for a prize.

7.

SCHEDULE PREPARED BY THE SPECIAL JURY

FOR THE

NEW ORDER OF REWARDS.

*Demand No.*_____

*Name of Candidate*_____

*Address*_____

*Name of Country*_____

Schedule of Information communicated, in conformity to the directions of the Permanent Commission,

to _____

by_____ the Juror representing the Country above named.

The object of this Schedule is to enable Competitors to state full particulars in support of their applications, and in a form which may be readily compared with other similar returns.

The first column of the Schedule, therefore, contains a classified and summary statement of the more prominent merits, according to the programme adopted by the Jury at its first meeting.

The statement of details of merit should be inserted in as concise terms as possible, in the spaces of the last column which are opposite to the corresponding entries in the first column; and in case any separate statement be made, it should be marked with the number or numbers of the corresponding articles (in column 1), so as to facilitate reference.

In the column headed "References" applicants are requested to insert the designations and addresses of the authorities, and other persons of eminence, from whom the Jury may be able to obtain, if necessary, direct verification of the facts of the case.

The statement of particulars, to be entered in the subjoined Schedule, should be returned, signed, *with any supplementary statements, before the* _____

*to*_____

MEMORANDUM

Stating summarily the results of the First Examination of the claim made by_____, the Juror representing the Country above named.

Total Estimate of the Merits of the case:—

Proposed Reward:—

SPECIAL JURY FOR THE

*Candidate*_____

DISTINCTIVE FEATURES OF MERIT ACCORDING TO THE PROGRAMME. CLASSIFIED IN THE ORDER OF THEIR RELATIVE IMPORTANCE.	Number representing the relative value of the Merits. (*a.*)	Memorandum of the Number (from 0 to 20) indicating the value assigned to each of the Merits. (*b.*)
I. Funds for granting aids, pensions, shares in life assurances; methods and institutions of every description tending to improve the material condition of workpeople, and to provide for their future well-being.	1	
II. Efforts made to restrain, or to prevent the spread of vicious habits.	2	
III. Schools and other institutions tending to ameliorate the intellectual and moral condition of workmen and apprentices. Facts showing the results obtained.	2	
IV. Systems of rewards, payment by piecework, and all other systems of wages calculated to ameliorate labour, and to stimulate energy and a spirit of initiative on the part of the workmen.	3	
V. Grants, and, generally, schemes and institutions intended to render the position of the workpeople more stable, and to provide against unforeseen contingencies.	3	
VI. Accumulation of annual savings of relative importance (*relativement considérable*).	3	
VII. Absence of irritating discussions on the subject of wages.	4	
VIII. Long continuance of co-operation, and permanent establishment of harmony.	4	
IX. Combination of agricultural and manufacturing pursuits.	4	
X. Property in, or permanent right to occupy, habitations, or without rural dependencies.	5	
XI. Customs and measures calculated to protect young women whom the exigencies of labour oblige to leave their homes.	5	
XII. Customs and measures calculated to concentrate the energies of mothers of families on home duties.	5	
XIII. Merits not specified in the programme.		
CONCLUSIONS—Total Estimate of the Merits (sum of $a \times b$.)		

NEW ORDER OF REWARDS.

Address _____

Total Estimate of each Merit. ($a \times b$.)	Detailed Statement of the Merits ascertained by the First Examination and on which the Estimates given in the third column (b) are based.

Reference to Articles on Page 2.	FURTHER PARTICULARS.
I.	
II.	
III.	
IV.	
V.	
VI.	
VII.	
VIII.	
IX.	
X.	
XI.	
XII.	
XIII.	

Address _____ *Date* _____

Signature of Juror conducting Preliminary Examination _____

8.

CORRESPONDENCE.

a.

The following letters have been issued :—

South Kensington Museum,
January 1867.

My Lord, or Sir,

The Imperial Commission for the Paris Exhibition have offered several prizes of large value to be awarded "to "persons, establishments, or localties, which, by a special "organization or special institutions, have developed a spirit "of harmony among all those co-operating in the same "work, and have provided for the material, moral, and "intellectual well being of the workmen," and have invited foreign countries to name jurors to award such prizes.

The first meeting of the Jury has lately taken place in Paris, and they have issued the accompanying document.*

It will be seen that it is left to each country to collect in its own way the information desired, and to make the particulars as complete as possible. Such information, whatever may be the result of the competition, cannot fail to be of the highest value.

The accompanying series of questions has been prepared and circulated by the British Executive for the Exhibition, and I transmit a copy for your information in the hope that you will kindly peruse the paper and favour me with any observations which may occur to you on the subject, and the names of any persons or establishments to which you consider it might properly be sent.

I have the honour to be,
My Lord, or Sir,
Your obedient Servant,
(Signed) Buckingham and Chandos,
Lord President.

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b.

Sir,

South Kensington Museum,
January 1867.

The Imperial Commission for the Paris Exhibition have established a new order of reward for establishments promoting the welfare of the persons engaged in them; and

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* See foregoing "Extract from Regulations, &c.," Nos. 1 and 4.

it has been suggested that your establishment could afford in a high degree the information which the Imperial Commission desire to elicit.

I have the honour to send you the documents relating to this new order, and to express a hope that you may see fit to fill up the questions and return them to me; and I desire to remark that under any circumstances the collection of this information and its publication seem calculated to be of general public benefit.

I beg leave to add that if you are acquainted with any institution which might be asked to give its experience on the subject you would further oblige me by sending the addresses of the managers.

I have the honour to be,
Sir,
Your obedient Servant,

(Signed) HENRY COLE,
Secretary and Executive Commissioner.

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c.

SIR, March 11, 1867.

I AM directed by Her Majesty's Commissioners to forward for your information the annexed copy of a letter which has been addressed to the Imperial Commission on the subject of the New Order of Reward.

I have the honour to be, Sir,
Your obedient Servant,
HENRY COLE,
Secretary and Executive Commissioner.

To _____

Copy.

British Executive Commission,
71, Avenue des Champs Elysées,
Paris, March 6, 1867.

SIR,

I HAVE the honour to inform you that Her Majesty's Commissioners have again had under consideration the appointment of Jurors for the New Order for Reward.

They have also had before them the Schedule issued by the Imperial Commission in their letter of the 1st of February for the use of competitors, and the information collected in Great Britain from various Firms and Institutions.

After a careful consideration of these papers, Her Majesty's Commissioners have reluctantly come to the conclusion that there exists no common basis for judging the relative merits of the several competitors, and that, as far as Great Britain is concerned, the whole matter is surrounded with insuperable difficulties.

Some persons whose undertakings rank high in their class, and who have not hesitated to give information, decline altogether to compete for money rewards. They object to the arbitrament of a Jury in such a case, and have made returns solely from the desire of complying in all courtesy with the desire of the Imperial Commission.

Her Majesty's Commissioners have no doubt that the objection felt in this country to the arbitrament of a Jury on a subject of so complicated a character, requiring such a minute and special knowledge of the peculiar circumstances of each case, has deterred other important Firms and Institutions, whose claims would be among the strongest for recognition, from coming forward.

Although returns from several well-known and influential Firms are to be found amongst the information collected, Her Majesty's Commissioners are of opinion that the returns do not adequately represent the different kinds of important Establishments and Institutions of the United Kingdom.

Some gentlemen, whose names as Jurors would in the opinion of Her Majesty's Commissioners have been among the best calculated to inspire general confidence, have declined to act on the ground of the extreme difficulty of the task.

Her Majesty's Commissioners are fully sensible of the great importance and interest of the subject upon which the Imperial Commissioners have endeavoured to throw light by the offer of great and munificent rewards. It was with this feeling that they collected a series of returns which they will shortly have the honour of forwarding to the Imperial Commissioners for their information; and it is with deep regret that Her Majesty's Commissioners have been reluctantly forced to the conclusion that further proceedings by them in this matter could lead to no satisfactory result, and that they are, therefore, obliged to refrain from availing

themselves of the invitation to nominate Jurors for this order of merit.

I have the honour to be, Sir,
Your obedient Servant,
(Signed) HENRY COLE,
Secretary to Her Majesty's Commissioners.

A Monsieur,
Monsieur Conseiller d'Etat Le Play,
Commissaire Général de l'Exposition Universelle de 1867,
Paris.

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d.

South Kensington Museum,
SIR, August 27, 1867.

WHEN I had the honour to send to you in January last the documents relating to the New Order of Reward proposed by the Imperial Commission of the Paris Exhibition, I remarked that under any circumstances "the collec-" tion of the information and its publication seemed calculated " to be of general public benefit."

The information thus collected was classified and printed, but a few copies only were issued to the Imperial Commission. I have to inform you that applications are constantly made for copies of the printed work, and that it appears desirable to publish it, and perhaps lay the same before Parliament.

I am accordingly directed by the Lord President of the Council to inquire if you desire to have the returns sent in by you included in the general printed copy about to be published, and to have any copy or copies for your own information.

Your early answer will oblige. Should no answer be received before 1st October it will be inferred that you approve of the course proposed to be adopted, and the work will be published with your returns included.

I am,
Your obedient servant,
(Signed) HENRY COLE,
Executive Commissioner.

9.

BRITISH SECTION.—FORM 56.

This Form must be filled up by or on behalf of any Person, Establishment, or Institution, in the United Kingdom, for which the Reward is claimed, and must be forwarded to the "Secretary, Paris Exhibition, South "Kensington Museum," on or before the 20th January 1867.*

I. General Questions which apply to all cases.

1. Name of the Establishment :
   Where situated :
   Full Postal Address.
2. Name of the Proprietor, or Body of Proprietors.
3. Name in full, Description and Address of the Correspondent or Secretary of the Institution.
4. Principal Object of the Establishment.
5. By whom was it formed ?
6. When was it established ?
7. Have the Works of the Institution ever been suspended ? if so, for how long, at what date, and from what cause ?
8. State the number of Persons at present employed, or received into the Institution—Adult Males .
   Females .

   Young Persons :

   Within the ages of and | Males . Females.

   Children :

   Males . Females .
   And the average number in each during Ten Years.

9. Are there any restrictions or qualifications for admission or employment in labour : namely,—
   Age, and at what age ? Instruction ?
   Apprenticeship, or other period of service ?
10. What is the proportion of married females employed ?
11. What regulations are made to enable them to attend to their family and domestic duties ?

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* It is desirable that the questions should be answered as far as possible ; but it is not imperative that all should be filled up ; and there are cases in which the whole are not applicable.

12. Are any arrangements made for the Protection of Young Females whose employment necessitates their leaving home?

13. Has the Establishment been remunerative, or otherwise?

14. Is any Pecuniary Assistance received from the Government or from any other body not participating in the profits? If so, define its nature and amount.

15. Has the Establishment any Special Privilege, or Monopoly of any kind, and what is its nature?

15*a*. Enclose a copy of all Rules framed for the Government of the Establishment, or any Information which may specially refer to it, and any Plans of the Buildings.

II.

In Establishments where any Description of Manufacture or Productive Labour is carried on, state—

16. Of how many Partners does the Establishment consist?

17. Is their Pecuniary Responsibility limited?

18. Is the Capital divided into Shares, or owned in parts? if so, how many, and of what amount, or in what proportions?

19. During the last five years, what has been the average yearly profit per cent., and in what proportion, and according to what principle, has it been divided among—

    1. The Partners, or Shareholders.
    2. The Workpeople.
    3. Any other persons.
    4. Devoted to Capital, or other purposes?

20. What are the daily number of Hours of Work at the Establishment, exclusive of meal-times?

21. What are the average Weekly Wages now earned?
    By a Family?
    By a Single Workman?
    What are the highest Weekly Wages? What are the lowest?

22. Have any, and what, Systems been adopted (payment by the piece or other) to stimulate the industry of the Workpeople?

23. Have Dwellings, at the cost of the Establishment, been provided for the Workpeople? Of what character? When erected? How many? And at what cost?

24. What are the average Weekly Rents paid for such dwellings?
    By a Family?
    By a Single Workman?

25. Are any, and what, regulations made and enforced, relative to periodical Cleansing of the Dwellings and Workshops?

26. Is there any Co-operative Society, or arrangement amongst the Workmen for the purchase of Food or Clothing, and how is the Management provided and paid for ?

27. Do the Employers contribute in any way ?

28. Is the system of Truck in any form adopted ?
Are any Payments made except in Money to Persons employed ?

29. Is any Provision made by the Proprietors, or by the Workpeople themselves, for Medical Attendance in cases of Sickness ; and are any, and what, Allowances made to them, or in cases of Death for their Burial, and from what Funds ?

30. State the proportion to the average of the locality of the
Deaths of the Workpeople employed.
Their Marriages.
Births—Legitimate . Illegitimate .

31. State the average Duration of Life of the Workpeople.
Adult Males . Adult Females . Children .

32. State if any, and what, provision is made for the Education of the Workpeople and their Children, and from what funds provided.

33. State what provision is made for their religious teaching.

34. State what provision is made for their mental or physical Recreation.

35. Is any arrangement made to promote Temperance, and what proportion of the Workpeople avail themselves of it ?

36. Are any plans adopted for taking charge of the Savings of the Workpeople ?

37. How long have they been in operation ?

38. What is the number of the Contributors, and the average amount of their Savings?

39. Are there any instances of Savings invested in Life Assurance and to what extent ?

40. Have any, and how many, of the Workpeople, by means of their savings, become possessed of Houses ?

41. Have they joined any Trades' Union, or formed any such union among themselves ?

42. Have such Unions had any, and what, influence upon their Hours, or Modes of Labour, or their Rate of Wages ?

43. Have there been any Strikes among the Workpeople ?

44. State at what period. Of what duration.
And the alleged causes.

45. By what means, and on what conditions, were they terminated ?

46. Have any Trade Unions interfered with the management of the Establishment ? And if so, give all particulars.

47. Has the Establishment given rise to any hostile Combinations among the Manufacturers or Workpeople of the locality ?

48. Has it had any, and what, effect upon the Poor's Rate of the parish ?

III. If the Establishment be one in which no Manufacture or Productive Labour is carried on, or forms part of the plan, state—

49. The express Nature and Objects of the Institution.

50. By whom is it managed ?

51. What is its gross Annual Income, and whence derived ?

52. What are the Annual Expenses of Management ?
And of Collection where Subscriptions are paid ?

53. What is the number of paid Officers ?

54. And the Salaries ?

55. The conditions on which the Inmates are commonly received, and the average duration of their stay in the Institution.

56. The Weekly Cost of the Inmates per head. Is it entirely, or in what proportion, defrayed from the funds of the Institution, or in what other way ?

57. Is any, and what, Money Allowance made to the Inmates, and any, and what, Gratuity given to them on leaving the Institution ?

58. State was has been the total yearly Cost during the last five years.

59. Answer as in previous questions with regard to
Sickness (No. 29).
Education (No. 32).
Religious Teaching (No. 33).
Recreation (No. 34).
Temperance (No. 35).

60. What has been the average Sum spent, under each of these heads, during each of the last five years ?

61. By whom, and under what control are the funds managed ?

62. Have you any other information to offer on this subject, or in regard specially to your Establishment?

Signed by { _____ *Owner.* / _____ *Manager.* / _____ *Public Officer of the Establishment.*

CERTIFICATE.

We certify that we are well informed of the management of the above Establishment, and that we believe the foregoing statements to be true.

_____

_____

_____

N.B.—The above certificate must be signed by at least two of the Magistrates, or one Magistrate and Clergyman, or other well known person residing in the locality.

10.

N.B.—1. Many of the questions in Form 56 may not, by their wording, be directly applicable to Co-operative or Benevolent Societies. In such cases the questions may be modified, and answered, as circumstances require; and the following return should also be carefully filled up, so far as applicable, for each Society.

2. In all those cases, moreover, which fall directly under Section II. or III. of Form 56, any additional particulars asked for in the following questions may be given, if they seem likely to furnish any special information in support of the claim :—

63. Name, in full, of the Society :

Where situated :

Full postal address.

64. Names of the Persons, with their offices, by whom the affairs of the Society are managed.

65. Name, in full, designation, and address of the Secretary.

66. At what date, and by whom, was the Society established?

67. What was the object of its formation?

68. What special means are adopted for securing that object ?

69. Give a short sketch, with statistics * of its progress, development, and present prosperity.

70. In what respects does the Society fulfil the conditions on which a claim can be submitted on its behalf to the International Jury, in accordance with the principles laid down at their first meeting ? (*See* page 10.)

71. What are the qualifications for admission to the Society ? or for employment by it ?

72. Of how many members does the Society consist ?

73. How many workmen, or women, are employed by it ?

74. Have the workmen a share in the profits ?

75. Are there any sources of profit beside the Annual Dividend ? *e.g.*, by Shop Tickets or other advantages of a similar kind.

76. By whom is the scale of wages regulated ?

77. By whom, and in what manner, are disputes as to wages, or other general questions affecting the well-being of the Society, settled ?

78. How far are Agricultural and Manufacturing pursuits combined among Members of the Society ?

79. Has the Society been the means of obtaining for its Members, or those connected with it, the Ownership of a House, or of Rural Premises ?

80. Are there any Relief Funds, Asylums, or Life Assurances, connected with the Society ? and is any Provision secured in case of future need ?

N.B.—Special attention is requested to the questions in Form 56, numbered 7, 8, 11–15*a*, 19–48, 61, which should be carefully answered, so far as they are applicable to the operations of each Society.

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* Copies of the earliest and latest Reports (including the Balance Sheets), should be filed with this Form.

11.

The following returns have been received by Her Majesty's Commissioners, in reply to the letters of which copies are given in the previous pages.

I.—COMMERCIAL UNDERTAKINGS.

1. Adams & Co., Nottingham, Lace Manufacturers.
2. Akroyd & Sons, Worsted and Cotton Manufacturers.
3. Ashworth, E., & Sons, Cotton Manufacturers.*
4. Bessbrook Spinning Company.
5. Bliss & Sons, Tweed, Woollen, &c. Manufacturers.
6. Briggs, Son, & Co., Whitwood and Methley Junction Collieries.
7. Brook, Jonas, and Brothers, Cotton Manufacturers.
8. Bryant & May, Patent Safety Match Makers.*
9. Campbell & Co., Mossley Flax Spinning Mills.
10. Compstall Mill Printworks and Collieries.
11. Consett Iron Company.
12. Crossley & Sons, Carpet Manufacturers.
13. Denaby Pottery.
14. Dowlais Iron Company.
15. Fox, Head, & Co., Rolling Mills.
16. Greening & Co., Iron Fence Manufacturers.
17. Gilford Flax Mills.
18. Hale, T. & T., Brass and Copper Founders.
19. Hannington & Sons, Linen Drapers.
20. Hare & Co., Floorcloth Manufacturers.
21. Henderson & Co., Carpet Manufacturers.
22. Hitchcock, Williams, & Co., Linendrapers.
23. Holmes, H. & A., Carriage Manufacturers.
24. Hooper & Co., Carriage Manufacturers.
25. Huntley & Palmer, Biscuit Bakers.
26. Laverstoke Paper Mills.
27. London Dressmaking Company.
28. Maudslay, Son, & Field, Engine Makers.*
29. New Eagley Cotton Mills, H. Ashworth.
30. Panmure Linen and Cotton Works.
31. Peek, Frean, & Co., Biscuit Manufacturers.
32. Ransome & Sims, Agricultural Implement Makers.
33. Salt, Titus, Alpaca, &c. Manufacturer.
34. Stafford Road Locomotive Works.
35. Stoneywood Works, Aberdeen, Paper Manufactory.
36. Tailors' Labour Agency, Dunn's.
37. Winfield & Co., Manufacturers of Metal Goods.

II.—BUILDING SOCIETIES.

1. Columbia Square, Miss Burdett Coutts' Lodging-house.
2. Halifax Permanent Benefit Building Society.
3. Hastings Cottage Improvement Society.
4. Improved Industrial Dwellings Company.
5. Leeds Permanent Building Society.
6. London Labourers' Dwelling Society.
7. Marylebone Association for Improving the Dwellings of the Poorer Classes.
8. Metropolitan Association for Improving the Dwellings of the Industrious Classes.
9. Society for Improving the Condition of the Labouring Classes.
10. Vance—Model Lodging-houses in Dublin.

III.—CO-OPERATIVE SOCIETIES.

1. Blaydon District Industrial and Provident Society.
2. Bristol Co-operative Society.
3. Company of Free Dredgers and Fishers, Whitstable.
4. Co-operative Farm, Assington.
5. Hull Anti-Mill Co-operative Industrial Society.
6. Kirkheaton Co-operative Industrial Provident Society.
7. Long Buckby Self-Assistance Society.
8. Leeds Industrial Co-operative Society.
9. Mutual Industrial Shoe Manufactory, Northampton.
10. Manchester and Salford Equitable Society.
11. Northern Co-operative Society.
12. Rochdale Equitable Pioneers' Society.
13. Rochdale District Co-operative Mill.

IV.—SAILORS' HOMES.

1. Belfast.
2. Cork.

* These returns were withdrawn from publication.

3. Cornwall (Falmouth).
4. Devonport.
5. Dover.
6. Dublin.
7. Glasgow.
8. Liverpool.
9. London.
10. Portsmouth.
11. Queenstown.
12. Sunderland.
13. Swansea.

V.—LOCALITIES HAVING SPECIAL INSTITUTIONS.

1. Town of Halifax.
2. Town of Ipswich.

VI.—MISCELLANEOUS INSTITUTIONS.

1. Abbott's Ann Provident Benefit Club.
2. Aberdeen Female School of Industry.
3. Ballinasloe District Agricultural Society.
4. Bianconi, owner of the cars in Ireland.
5. Board of Arbitration and Conciliation for the Hosiery and Glove Trade.
6. Borschitzky, J. F.*
7. Bowkett, T. E.*
8. Coles, G.*
9. Corporation of the Sons of the Clergy.
10. Cripples' Home, Female Refuge, and Public Laundry.
11. East London Refuge and Certified Industrial School.
12. Grantham Medical Club.
13. Jackson, Enderby, National Musical Contests.
14. Keevil District Horticultural and Labourers' Improvement Society.
15. Birkbeck Institution.
16. Loyal Bud of Hope Friendly Society.
17. Loyal Orwell Lodge, Ipswich.
18. Penny Readings, Ipswich.
19. Philanthropic Society Farm School.
20. Ragged School Shoeblack Society.
21. Royal Society for the Protection of Life from Fire.
22. Royal Cornwall Polytechnic Society.
23. Sandwell Training Home.
24. Slough Mechanics' Institution.
25. Tyne Docks Institution.
26. Ulster Society for the Education of Deaf, Dumb, and Blind.
27. Working Women's College.

* These have not answered the detailed questions.

ABSTRACT OF RETURNS.

I.—Commercial Undertakings	37
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Total	102

12.

I.—COMMERCIAL UNDERTAKINGS.

Names.	**1. Name of the establishment.** *a.* **Where situated.** *b.* **Full postal address.**
T. Adams & Co. -	Thomas Adams and Company, Limited. Stoney Street, Nottingham.
J. Akroyd & Son -	James Akroyd and Son. Halifax and Copley, near Halifax. Yorkshire.
Bessbrook Spinning Co.	The Bessbrook Spinning Company. At Bessbrook, nr. Newry, Ireland.
W. Bliss & Son -	William Bliss and Son. Chipping Norton Woollen Factory. Chipping Norton, Oxfordshire.
H. Briggs, Son, & Co.	Henry Briggs, Son, & Co., Limited. *a.* Whitwood and Methley Junction Collieries. *b.* Normanton, Yorkshire.
Jonas Brook & Brothers.	Jonas Brook and Brothers. *a.* Meltham Mills. *b.* Huddersfield, Yorkshire.
Campbell & Co. -	Mossley Mills. Carnmoney. Belfast.
Compstall Mill, &c.	Compstall Mill, Print Works and Collieries. Compstall, near Stockport.
Consett Iron Co. -	Consett Iron Works. Consett, Gateshead-on-Tyne.
J. Crossley & Sons	John Crossley and Sons (Limited). *a.* Halifax, Kidderminster, London, and Manchester. *b.* Halifax, Yorkshire.
Denaby Pottery -	Denaby Pottery. *a.* At Denaby, near Rotherham, Yorkshire.
Dowlais Iron Co.	The Dowlais Iron Company. *a.* Dowlais, Merthyr Tydfil.
Fox, Head, & Co. -	Newport Rolling Mills, Middlesborough, Yorkshire.
Gilford Mills -	Gilford Mills. *a.* Gilford, county of Down. Ireland.
Greening & Co. -	Greening and Company, Limited. *a.* Works at Salford, near Manchester, Offices in Manchester. *b.* 4, Warren Street, Manchester.
T. F. & T. M. Hale	Narrow Wine Street Brass and Copper Works. Narrow Wine Street, Bristol.
C. S. Hannington -	Charles Smith Hannington, trading in the name of the firm of S. Hannington & Sons, General Retail Drapery and Furnishing Warehousemen, 2, 3, 4, and 5, North Street, 2, Pavilion Buildings, and 53 Market Street, Brighton, Sussex.
John Hare & Co. -	John Hare and Company. Temple Gate, Bristol.
Henderson & Co. -	Henderson & Co. Durham.
G. Hitchcock, Williams, & Co.	George Hitchcock, Williams, and Co. *a.* 72, 73, and 74, St. Paul's Church Yard. *b.* 45 and 46 Paternoster row, 1 and 2, London House Yard, London.
H. & A. Holmes -	H. and A. Holmes, Carriage and harness manufactory. Derby.
G. N. & W. Hooper	Carriage Manufactory. 113, Victoria Street, S.W., London.
Huntley & Palmers	Huntley and Palmer's Biscuit Manufactory. *a.* Reading. *b.* Rood Lane, London, and Reading, Berks.
Laverstoke Mills	Laverstoke Mills. *a.* Near Overton station, South-western Railway, Hampshire. *b.* Laverstoke Mills, Micheldever, Hampshire.
The London Dressmaking Co.	The London Dressmaking Company, Limited. 18, Clifford Street, Bond Street, London, W.
New Eagley Mills	New Eagley Mills. *a.* near Bolton. *b.* Lancashire.
Panmure Works -	Panmure Works. Carnoustie, Dundee.

Names.	
Peek, Frean, & Co.	Peek, Frean, & Co.'s Biscuit Works. *a.* Dockhead and Drummond Road. *b.* London, S.E.
Ransome & Sims -	The Orwell Works. *a.* At Ipswich, Suffolk. *b.* Messrs. Ransome & Sims, Orwell Works, Ipswich, Suffolk.
Saltaire - -	Saltaire. Bradford, Yorkshire.
Stafford Road Locomotive Works.	Stafford Road Locomotive Works, Great Western Railway. *b.* Stafford Road, Wolverhampton.
Stoneywood Works	Stoneywood Works, Woodside Works, and Union Works. *a.* In and in the neighbourhood of Aberdeen. *b.* Aberdeen.
Tailors' Labour Agency.	Tailors' Labour Agency. Newington Causeway, London, S.E.
R. W. Winfield & Co.	R. W. Winfield & Co., Cambridge Street Works and Rolling Mills, Birmingham.

2. Name of the proprietor, or body of proprietors.

Adams - - -	See Answer to Question 1.
Akroyd - -	Edward Akroyd, M.P. for Halifax.
Bessbrook Spinning Co.	John G. Richardson, and his son, James Richardson.
Bliss - - -	William Bliss and Son.
Briggs - - -	Henry Briggs, Son, & Co., Limited.
Brook & Brothers	Jonas Brook and Brothers.
Campbell & Co. -	Henry Campbell and Co.
Compstall Mill, &c.	George Andrew and Charles Andrew, forming the firm of George Andrew & Sons.
Consett Iron Co. -	Consett Iron Co., "Limited."
Crossley - -	John Crossley and Sons, Limited.
Denaby Pottery -	John Wardle and John Blyth.
Dowlais Iron Co.	The Dowlais Iron Company.
Fox, Head, & Co. -	Theodore Fox, Pinchingthorpe, Guisbro', Yorkshire. Jeremiah Head, Coatham, Redcar, Yorkshire. Charles Montgomerie Newcomen, Kirkleatham, Redcar, Yorkshire.
Gilford Mills -	Dunbar, Mc Master & Co.
Greening & Co. -	Edward Owen Greening; Joseph Greening; Thomas Hughes, Esq., M.P.; Benjamin Whitworth, Esq., M.P.; William Armitage, Esq., Manchester, and about 12 other gentlemen, all shareholders, together with the workpeople employed by the Company.
T. F. & T. M. Hale	Thomas Frederick Hale, and Theodosius Morris Hale.
Hannington - -	Charles Smith Hannington.
Hare & Co. - -	John Hare, Charles Bowles Hare, Sholto Vere Hare, Henry Grace Hare, co-partners.
Henderson & Co. -	John Henderson, William Henderson, Thomas Bagley.
Hitchcock & Co. -	George Hitchcock, Williams, and Company.
H. & A. Holmes -	Herbert Mountford Holmes and Arthur East Holmes.
Huntley & Palmers	George Palmer, Samuel Palmer, William J. Palmer.
Laverstoke Mills	Wyndham, S. and Robert Portal.
The London Dressmaking Co.	The London Dressmaking Company, Limited.
New Eagley Mills	Henry Ashworth.
Panmure Works -	James Smieton and Sons. Individual partners, Thomas A. Smieton, James Smieton, junior, and David A. Smieton.
Peek, Frean, & Co.	Peek, Frean, & Co.
Ransome & Sims -	James Allen Ransome, William Dillwyn Sims, Robert Charles Ransome, and John Head.
Saltaire - -	Titus Salt.
Stafford Rd. Wks.	Great Western Railway Company.
Stoneywood Works Agency -	Alex. Pirie and Son.
	Joseph Arnold Dunn.

Names.	
Winfield & Co. -	Robert Walter Winfield, Charles Weston, and James Atkins.

3. Name in full, description and address of the correspondent or secretary of the institution.

Adams - - -	Joseph Whitaker, Financial Agent, Nottingham.
Akroyd - -	C. N. Wilkinson, Messrs. James Akroyd and Son, Halifax.
Bessbrook Spinning Co.	All correspondence should be addressed to the Bessbrook Spinning Company.
Brook & Brothers	Private company.
Briggs - - -	Archibald Briggs, Secretary, Whitwood Colliery, near Normanton, Yorkshire.
Campbell & Co. -	John Campbell, Mossley, Carnmoney, Belfast.
Compstall Mill, &c.	William Morton, Compstall, near Stockport.
Consett Iron Co. -	Jonathan Priestman, Consett, Gateshead, and David Dale, Darlington, managing directors.
Crossley - -	Benjamin Musgrave, Dean Clough Mills, Halifax.
Denaby Pottery -	John Wardle, Denaby Pottery, near Rotherham.
Dowlais Iron Co.	The Dowlais Iron Company, Dowlais, Merthyr Tydfil.
Fox, Head, & Co. -	All correspondence is conducted under the name of the firm.
Gilford Mills -	Dunbar, Mc Master & Co., Gilford, Ireland.
Greening & Co. -	1. Correspondent, Edward Owen Greening, Nelson House, Lower Broughton, Manchester. 2. Secretary to the Company, Frederick Roberts, 4, Warren Street, Manchester.
T. F. & T. M. Hale	T. F. Hale, correspondent as above.
Hannington - -	Mr. Samuel Hannington, 6, Chesham Place, manager.
Hare & Co. - -	Sholto Vere Hare, J.P., Clifton Park, Bristol.
Henderson & Co. -	The partners direct all the correspondence.
Hitchcock & Co. -	George Williams, 72, St. Paul's Church Yard.
Huntley & Palmers	Huntley and Palmers, Reading.
Laverstoke Mills	Winchester Munn, Laverstoke Mills (Manager and Superintendent.)
The London Dressmaking Co.	Thomas Hay, Esq., 18, Clifford Street, Bond Street, London.
Panmure Works -	Thomas A. Smieton.
Peek, Frean, & Co.	Peek, Frean, & Co., London, S.E.
Ransome & Sims -	James Allen Ransome, Esq., Orwell Works, Ipswich.
Stafford Rd. Wks.	Superintendent of Works and of Northern Division of Great Western Railway Locomotive Department, George Armstrong.
Stoneywood Works	F. Logie Pirie, Waterton House, Aberdeenshire, N.B.
Tailors' Agency -	William Edward Church, Newington Causeway.
Winfield & Co. -	Mr. Charles Torr, Cambridge Street Works, Birmingham.

4. Principal object of the establishment.

Adams - - -	For the finishing and sale of lace.
Akroyd - -	The manufacture of worsted yarns, of worsted and stuff goods generally, also of mixed materials of worsted and cotton in every variety.
Bessbrook Spinning Co.	To spin yarns from flax, bleach them, and weave them into linens of various descriptions.
Bliss - - -	The manufacture of fancy tweeds, shawls, and military serges, woollens for horse clothing, &c.
Brook & Brothers	Spinners and manufacturers of sewing cotton.
Briggs - - -	The working, and selling of coals.
Campbell & Co. -	Flax spinning.
Compstall Mill, &c.	Spinning and manufacturing cotton cloth and printing same. —Coal mining.
Consett Iron Co. -	Coal mining, coke and iron making.
Crossley - -	Carpet manufacturing.

Names.	
Denaby Pottery	The manufacture of earthenware.
Dowlais Iron Co.	To make iron and steel, and raise for sale and manufacture steam and other coals.
Fox, Head, & Co.	Manufacture of puddle bars and iron plates for ships, bridges, and boilers.
Gilford Mills	Flax spinning, linen thread manufacturing, thread and yarn bleaching, and the manufacture of linens and cambrics.
Greening & Co.	Manufacture of iron gates and railings, and iron wire fences for parks, farms, gardens, &c. See also 15*a*.
T. F. & T. M. Hale	Manufacture of brass and copper articles.
Hannington	Sale of linendrapery, &c., &c.
Hare & Co.	The manufacture of floorcloth and of its ingredients, namely, the canvas which is woven, and the yarns spun on the premises, the white lead and colours and paints of every description.
Henderson & Co.	Manufacture of carpeting.
Hitchcock & Co.	The sale of goods in the general linendrapery and silk mercery trades.
H. & A. Holmes	Carriage and harness making.
Hooper	Manufacture of carriages and harness.
Huntley & Palmers	Manufacture of biscuits.
Laverstoke Mills	The manufacture of bank notes and other papers for the use of the Bank of England.
The London Dressmaking Co.	To improve the condition of the milliners and dressmakers of London by reducing the hours of labour and providing well ventilated workrooms and dormitories, and by the example thus set to induce other old established houses of business to follow their example, and also to give a share in all profits which may be made by the Company (after payment of 8*l.* per cent. on the paid up capital), to all persons employed in proportion to their earnings.
New Eagley Mills	Spinning and weaving of cotton.
Panmure Works	Manufacture of linens, or mixtures of linens, cotton, and jute.
Peek, Frean, & Co.	The manufacture of fancy and navy biscuits for home consumption and for export.
Ransome & Sims	The manufacture of steam engines, fixed and portable, and of machinery and apparatus for cultivating land, and for thrashing, grinding, and preparing agriculturing products by steam power, ploughs, and harrows, and agricultural implements and machines generally; patent crossings, keys, and treenails, for railways; castings, and forgings.
Saltaire	For the manufacture of alpaca, mohair, worsted goods, and yarns.
Stafford Rd. Wks.	Repairs of locomotive engines and tenders, and building new ditto, also depôt for running engine.
Stoneywood Works	Manufacturers of paper, envelopes, and cards.
Tailors' Agency	The elevation of the journeyman tailor by means of healthy workshops, a school for his children, and a literary institution for his mental cultivation.
Winfield & Co.	The production and sale of brass and iron tubes, plain and ornamental, chandeliers, gas fittings, metallic bedsteads in brass and iron, cast and stamped brassfoundery rolled copper and brass, wire, &c.

5. By whom was it formed?

Adams	Thomas Adams, Esq.
Akroyd	James Akroyd, the grandfather of the present owner.
Bessbrook Spinning Co.	John G. Richardson.
Bliss	By Thomas Bliss, grandfather of the present senior proprietor, 110 years ago.

Names.	
Brook & Brothers	By the family of the late William Brook, Esq., grandfather to the present proprietors.
Briggs - - -	Henry Briggs, Henry Currer Briggs.
Campbell & Co. -	Mr. Grimshaw.
Compstall Mill,&c.	George Andrew, father of present proprietors.
Crossley - -	John Crossley, Joseph Crossley, and Sir Francis Crossley, Bart., M.P.
Denaby Pottery -	John Wardle.
Dowlais Iron Co.	By lease from Lord Windsor in 1748.
Fox, Head, & Co. -	By Messrs. Fox, Head, and Co.
Gilford Mills -	By the late Hugh Dunbar, Esq., Huntly, Banbridge.
Greening & Co. -	Edward Owen Greening and Joseph Greening.
T. F. & T. M. Hale	Mr. Roger Rice.
Hannington - -	Mr. Smith Hannington, father of the present proprietor.
Hare & Co. - -	By John Hare the grandfather of the present John Hare and great grandfather of the junior partners.
Henderson & Co. -	By Gilbert Henderson, father of two of the present partners, viz., John Henderson and William Henderson.
Hitchcock & Co. -	Hitchcock and Rogers.
H. & A. Holmes -	The late Charles Holmes, father of H. and A. Holmes.
Hooper - -	T. G. Adams.
Huntley & Palmers	The late Thomas Huntley and present partners.
Laverstoke Mills	By Mr. Henry Portal, in 1719, a French refugee, consequent on the revocation of the edict of Nantes.
The London Dressmaking Co.	Several ladies of position who desire to ameliorate the condition of the workers in the trade.
New Eagley Mills	By the father and uncle of the present proprietor, viz., John and Edmund Ashworth.
Panmure Works -	James Smieton and Thomas A. Smieton, the former deceased 16th December 1866.
Peek, Frean, & Co.	James Peek and George Hender Frean.
Ransome & Sims -	Robert Ransome.
Saltaire - -	Titus Salt.
Stafford Rd. Wks.	Originally by the Shrewsbury and Birmingham Railway Company, afterwards amalgamated with Great Western Railway Company; the works were considerably enlarged by latter company.
Stoneywood Works	Mr. Smith, great grandfather of present senior partner.
Tailors' Agency -	Joseph Arnold Dunn.
Winfield & Co. -	Robert Walter Winfield.

6. When was it established?

Adams - - -	1830.
Akroyd - -	About 1790.
Bessbrook Spinning Co.	In year 1847.
Bliss - - -	In 1757.
Briggs - - -	The present Company was established under the Companies' Act of 1862 on July 1st, 1865, but the Collieries were worked by a private firm since 1846.
Brook & Brothers	About 80 years ago.
Campbell & Co. -	1834.
Compstall Mill,&c.	About 1800.
Consett Iron Co. -	In 1864 it was taken by present company; it was first established about 25 years ago.
Crossley - -	September 10th, 1864. The business was established about 60 years ago by the late John Crossley, the father of the present governing directors, who died 30 years ago, since which period the business has been carried on by John, Joseph, and

Names.	
Crossley—*cont.* -	Sir Francis Crossley, under the style or firm of "John Crossley and Sons," and they converted it into a limited liability company on the 10th September 1864.
Denaby Pottery -	August 1861.
Dowlais Iron Co.	Uncertain; probably abou 1750.
Fox, Head, & Co. -	Establishment of the firm May 1863, completion of the works and commencement to roll, October 13, 1864.
Gilford Mills -	1836.
Greening & Co. -	In 1856, but the present system of co-partnership between employers and employed was introduced in 1865.
T. F. & T. M. Hale	In the year 1726.
Hannington - -	1806.
Hare & Co. - -	In 1782.
Henderson & Co.	In the year 1814.
Hitchcock & Co. -	30 years ago.
H. & A. Holmes -	In 1802.
Hooper - -	1807.
Huntley & Palmers	The nucleus some 40 years since; the present business about 25 years since, before which time there was no machinery used.
Laverstoke Mills	In 1725, when it made its first parcel of notes for the Bank of England.
The London Dressmaking Co.	In 1864.
New Eagley Mills	1803.
Panmure Works -	In 1858 as a power loom factory; but from 1836 to 1850 Mr. James Smieton employed about 150 hand-loom weavers, and up to 1858 these were gradually increased in connexion with T. A Smieton.
Peek, Frean, & Co.	1857.
Ransome & Sims -	About the year 1789.
Saltaire - -	1853. Had been carried on in Bradford previously.
Stafford Rd. Wks.	1848.
Stoneywood Works	A.D. 1770.
Tailors' Agency -	Business in 1848; schools and institute in 1852.
Winfield & Co. -	1818.

7. Have the works or the institution ever been suspended? if so, for how long, at what date, and from what cause?

Adams - - -	No.
Akroyd - -	No.
Bessbrook Spinning Co.	The works have never been suspended except during days of public holidays, or occasionally for repairs.
Bliss - - -	During the whole 110 years they have not been suspended one day, except for holidays, or partially for necessary repairs.
Briggs - - -	No.
Brook & Brothers	Never.
Campbell & Co. -	Yes; three years; 1856-57-58; former proprietor commencing other business.
Compstall Mill, &c.	Never been suspended, except during the strike mentioned in Question 44.
Consett Iron Co. -	No.
Crossley - -	They have not been suspended.
Denaby Pottery -	Not been suspended.
Dowlais Iron Co.	Never.
Fox, Head, & Co. -	They have been suspended 23 weeks and 6 days, since the commencement 2¼ years since, viz., 20 weeks 1 day from strikes and lock-outs, and 3 weeks 5 days from other causes.
Gilford Mills -	No.
Greening & Co. -	The works have never been suspended by reason of strikes or disputes with the hands. A short suspension by reason of fire occurred a year ago.

Names.	
T. F. & T. M. Hale	Have never been suspended a single day except for necessary repairs.
Hannington - -	No.
Hare & Co. - -	Never been suspended.
Henderson & Co. -	The works have never been suspended.
Hitchcock & Co. -	No.
H. & A. Holmes -	No.
Hooper - -	In 1815 partially, in consequence of introducing provincial work into London.
Huntley & Palmers	No.
Laverstoke Mills	Works nearly or quite suspended in 1822 for about a year, and again in 1839 for about a year.
The London Dressmaking Co.	They have not.
New Eagley Mills	Never suspended.
Panmure Works -	The works have never been suspended.
Peek, Frean, & Co.	No.
Ransome & Sims -	The works have never been closed or suspended, excepting for a few days at Christmas time annually, and on holiday occasions.
Saltaire - -	No.
Stafford Rd. Wks.	No.
Stoneywood Works	Never.
Tailors' Agency -	They have not.
Winfield & Co. -	Never suspended from any cause.

8. State the number of persons at present employed, or received into the institution.
a. **Adult Males or Females.**
b. **Young persons.**
c. **Children.**
d. **And the average number in each during 10 Years.**

Adams - - -	Adult males, 70; females, 260. Young persons within the ages of 15 and 18: males, 15; females, 51. Children: males, 0; females, 21.
Akroyd - -	Adult males, 872. Females, 1,529. *a.* Males, 141. Females, 353. *b.* Males, 572. Females, 529. *c.* About 4,000.
Bessbrook Spinning Co.	Males, 957; Females, 1,463. Total, 2,420.
Bliss - - -	Adult males, 149; females, 137. Young persons within the ages of 16 and 21: Males, 55; females, 97. Children: Males, 40; females, 27. Average of all above, 500.
Briggs - - -	Adult males, 833; females, none. Young persons within the ages of 12 and 16; males, 163; females, none. Children; males, none, females, none. Total, 996.
Brook & Brothers	Adult males, 202; females, 568. Young persons within the ages of 13 and 18: Males, 64; females, 177. Children, males 97; females, 131. The average number in each during ten years nearly the same.
Campbell & Co. -	Adult males, 65; females, 115. Young persons within the ages of 13 and 18;—males, 68; females, 86. Children under 13 years: None.
Compstall Mill, &c.	Adult males 457; females 414. Young persons within the ages of 13 and 18, males 158; females 31.
Crossley - -	Adult males, 1,881; females, 1,360. Young persons within the ages of 13 and 18,—males, 600; females, 504. Children, males, 259; females, 191. Total employed, 4,795.

Names.	
Denaby Pottery -	Adult males, 54; females, 18. Young persons within the ages of 14 and 18: males, 8; females, 7. Children: males, 18; females, 4.
Dowlais Iron Co.	Adult males, 6,237; females, 484. Young persons within the ages of 15 and 18: males, 726; females, 178. Children: males, 756; females, 119.
Fox, Head, & Co. -	Above 400 hands, when the works are fully employed, including about 40 youths between the ages of 16 and 21, and a few boys about 14. The youths and boys, however, are not employed by the firm but by skilled workmen on piece who take contracts under the firm. The youths and boys are commonly the sons of the workmen. There are no females employed.
Gilford Mills -	Adult males, 369; females, 541. Young persons within the ages of 13 and 18: males, 262; females, 341. Children: males, 31; females, 54. Average number in all during ten years, 1,600 to 1,700.
Greening & Co. -	Adult males, 30; females, 0; young persons within the ages of 14 and 21: males, 26; females, 6. Children, 12 to 14: males, 8.
T. F. & T. M. Hale	Adult males, 30. Young persons, 10 all above 14 years. Not employed, the proprietors objecting to employ children.
Hannington - -	Adult males, 194, Females, 171, 113 of whom are married. Apprentices, &c., within the ages of 15 and 19, males 10, females, 10.
Hare & Co. - -	Adult males, clerks &c. included, 235; females, 29. *a.* Males, 53; females, 25. *b.* None. *c.* As nearly as possible as above.
Henderson & Co. -	Adult males, 230; females, 46. Young persons within the ages of 21 and 13: Males, 71; females, 120. 230 46 71 120 Total - 467
[illegible]ock & Co. -	Adult males, 118; females, 12. Young persons within the ages of 14 and 20: Males, 20; females, none. Children, none. Average number in each during 10 years: Adult males, 115; females, 12; youths, 15.
H. & A. Holmes -	Adult males, 159: Females, 4. Young persons within the ages of 14 and 21: Males, 45. Children, none.
Hooper - -	The number varies according to the time of year.
Huntley & Palmers	Adult males 616, including all ages from 17 upwards; Females 5. *a.* Young persons, within the ages of 12 and 17, males 297.
Laverstoke Mills	106 persons. Adult males, 34; females, 54. Young persons within the ages of 13 and 16: Males, 5; females, 13. Children: None under 12 years of age. Average number in each during 10 years 100, in the same proportion as above.
The London Dressmaking Co.	Adult males, 2; females, 30. *a.* Young Persons within the ages of 14 and 21: males, none; females 15.
New Eagley Mills	Adult males, 141; females, 248. Young persons within the ages of 13 and 18: Males, 50; females, 104. Children; Males, 92: females, 74. About the same number during the last 10 years.
Panmure Works -	Adult males, 120; females, 240. Young persons within the ages of 13 and 18: Males, 20; females, 120. Children within the ages of 8 and 13: Males, 10; females, 20. Total workers, 530. Average number in each during eight years is two-thirds of the above.

Names.

Peek, Frean, & Co. Adult males, 211; females, 57. Also 45 adult males who receive monthly salaries, 10 foremen, 35 clerks or travellers. Young persons within the ages of 12 and 18: males, 192; females, 55. Children, none.

During eight months of the year the number employed is from one-third to one-fourth larger.

	Males.	Females.
	211	57
	45	0
Adults	256	57
Youths	192	55
Total	448	112

Ransome & Sims - Adult males, 748; young persons within the ages of 13 and 21, 167 males, being boys and apprentices.

	748
	167
Total	915

The average total number employed during the last 10 years somewhat above 1,000.

Saltaire - - Adult males, 958; females, 566. Young persons, within the ages of 13 and 21, males, 408; females, 645. Children, between the ages of 8 and 13, males, 254; females, 239. Total, 3,070.

Stafford Rd. Wks. Adult males, 671; females, 2. *a.* Young persons within the ages of 14 and 21, males, 214.

Stoneywood Works

	Males.		Females.	
	Above 16.	Between 16 & 12.	Above 16.	Between 16 & 12.
At Stoneywood Works.	588	67	275	96
At Union Works -	47	4	278	224
At Woodside Works	19	2	205	15
	654	75	758	335

Total - - -	1,822
Employed at Woodside works, to work at their homes, sorting material for manufacture, a shifting number, sometimes none at all, sometimes as many as 250, girls, children, old men, and married women, say an average of -	175
In small branch establishments, London, &c., say - - - - - - - - -	25
Grand Total - -	2,022

Tailors' Agency - Adult males, 163; females, 71; children, males, 4.

Winfield & Co. - Adult males, 400; females, 40. Young persons between the ages of 18 and 21: Males, 120; females, 27. Children between the ages of 12 and 18, say—Males, 220; females, 10. The above figures are slightly below the average for the above period.

Names.	**9. Are there any restrictions or qualifications for admission or employment in labour, namely,—** ***a.* Age, and at what age?** ***b.* Instruction?** ***c.* Apprenticeship, or other period of service?**
Adams - - -	As a rule youths are received as apprentices for seven years. *a.* Eight years. *b.* No. *c.* No.
Akroyd - -	
Bessbrook Spinning Co.	*a.* Children under 13 are sometimes employed, but they only work half time, according to the Factory Act. The other half being divided between school and play. *b.* The term of apprenticeship varies from 3 to 7 years, according to the branch of the business to be learned.
Bliss - - -	*a.* Above 13. *b.* In order that all may have had time for proper instruction at the National and British schools, where they receive both secular and religious instruction. *c.* None.
Briggs - - -	*a.* None under 10. *b.* None under 12 and above 10 unless they can read and write, and attend school at least six hours per week. *c.* None.
Brook & Brothers	Eight. *a.* None below 8. From 8 to 13 they work half time, and attend school the other half. *b.* No.
Campbell & Co. -	*a.* 13 years. *b.* None. *c.* None.
Compstall Mill, &c.	Persons under 13 years of age are allowed to work half-time; from 13 years of age they are allowed to work 10½ hours per day, if in a fit state of health; under 13 sent to school 3 hours every day.
Consett Iron Co. -	No.
Crossley - -	*a.* None are employed under eight years. *b.* The children are at school half time between the ages of 8 and 13 years. *c.* There are a few apprentices.
Denaby Pottery -	Compliance with the Factory Act. *b.* Under 13 years of age attendance at school half time. *c.* Seven years.
Dowlais Iron Co.	No restrictions, save those imposed by the Mines and Collieries Act upon children under 12.
Fox, Head, & Co. -	No restrictions beyond those named in the printed "Rules and Conditions."
Gilford Mills -	From 8 to 13 years of age, 5 hours work, and 3 hours schooling each day; above 13 years, full work, or 60 hours per week.
Greening & Co. -	There are no legal restrictions imposed upon this trade, nor have any absolute rules been framed by the Company. The matter is left to the discretion of myself, my brother, and the general manager of the works. For a long time none have been employed younger than 12.
T. F. & T. M. Hale	*a.* Must be 14 years of age. *c.* 7 years.
Hannington - -	Young persons of respectable parents and fair education are taught their business free of any charge; the males for a term of four years living in the house, after which they receive salary; the females are paid after the first year, according to merit, and reside with their parents.
Hare & Co. - -	*a.* None under 13. *b.* No restriction, but children educated in the various public schools with good characters preferred. *c.* A few only taken as apprentices, and then for seven years, who have been well educated.
Henderson & Co. -	Thirteen years. *a.* All males and females under 21 years of age *must* attend the night schools established in the factory for education; the attendance at the Sunday schools, sewing school, music school, is optional. *b.* There are on an average 12 apprentices bound by indenture to serve till 21 years of age.
Hitchcock & Co. -	Respectability, education, and business experience and aptitude. *a.* 14 years. *b.* General knowledge of the business. *c.* 4 years. 20*l.* premium has to be paid for an apprentice, which is repaid as salary on the fourth year, unless the apprentice, through misconduct, or the misuse of his time has not acquired the skill to make his services of value to the firm.

Names.	
H. & A. Holmes -	Boys are taken apprentice at the age of 14 years, and are bound by indenture for seven years to the regular branches of the trade. A few other promising boys are employed as messengers and to attend to simple machinery, as drilling and screwing machines as early as 13 years, provided they have been to school sufficiently long to read and write well.
Hooper - -	*a.* About 14. *b.* Must previously be able to read and write. *c.* Apprenticeship, mostly for 7 years.
Huntley & Palmers	Not admitted under 12 years of age; usually refused unless they can read and write.
Laverstoke Mills	*a.* From 12 years. *b.* Must read and write fluently. *c.* Good and reliable testimonials or references as to character. Apprenticeships abolished for some years past, and there is freedom on part of master or servant to terminate service at two weeks' notice.
The London Dressmaking Co.	None, except that skilled workers only are employed.
New Eagley Mills	*a.* 8 to 13. *b.* Half-time, subject to schooling under Factory Law. *c.* No apprenticeship.
Panmure Works -	Children between the years of 9 and 13 are employed only five hours daily, and receive instruction three and a half hours in the institute connected with the works. The branches taught them are, English, geography, writing, arithmetic, and sewing.
Peek, Frean, & Co.	*a.* None under 12. *b.* None. *c.* None.
Ransome & Sims -	*a.* Thirteen years or upwards. *b.* No educational test applied. *c.* The terms of apprenticeship vary according to age at commencement. No apprentice serves more than seven years, but few serve so long, as all apprenticeships cease on the apprentice attaining 21 years of age. Almost all the youths commencing apprenticeships are more than 14 years of age.
Saltaire - -	All children from 8 to 13 are required to be in school one-half the day. *a.* 8 years. *b.* None.
Stafford Rd. Wks.	*a.* 14 years. *b.* Must be able to read and write. *c.* From five to seven years, according to age, the apprenticeship expiring at 21 years of age.
Stoneywood Works	*a.* There are no legal restrictions. We limit, however, the age for entrance to 12, on principle.
Tailors' Agency-Winfield & Co.	None. *a.* The rule is not to admit any child into this establishment under the age of 12 years. *b.* It is compulsory that every lad in the works, under the age of 18, shall attend our factory school, and they are not allowed to leave the works on a school night without an order from the schoolmaster. *c.* No apprentices.

10. What is the proportion of married females employed?

Adams - - -	5 per cent.
Bessbrook Spinning Co.	We believe not more than 2 per cent.
Bliss - - -	About 100, or one-fifth.
Briggs - - -	None.
Brook & Brothers	82 are at present working. 21 have husbands unable to provide for them; 13 without family; 48 husbands in work.
Campbell & Co. -	Married females with family, 2·0 per cent.; married females without family, 1·5 per cent. We do not employ females with families unless there be a proper person at home to keep house.
Consett Iron Co. -	No females employed.
Crossley - -	354, or 17·22 per cent.
Denaby Pottery -	Four.
Dowlais Iron Co.	About one-seventh, who are chiefly widows.
Fox, Head, & Co. -	None.

Names.	
Gilford Mills	127 (out of a total of 1,599 hands).
Greening & Co.	No married females are employed, or have ever been.
T. F. & T. M. Hale	Do not employ females.
Hannington	11, acting mostly as forewomen in the made-up departments, besides a few of the indoor servants.
Hare & Co.	30 married; 24 single.
Henderson & Co.	Married females, 29 / Unmarried do. 137 } Total 166.
Hitchcock & Co.	There are no married females in the establishment, but three widows, two of whom have children; but their children are all boarded and lodged in schools or business houses.
Huntley & Palmers	None.
Laverstoke Mills	50 per cent.
The London Dressmaking Co.	None are married.
New Eagley Mills	61 married females, in 700 workers.
Panmure Works	There are only four married females in our employment.
Peek, Frean, & Co.	None.
Ransome & Sims	There are no females employed in the works.
Saltaire	Of the total number of 1,450 females employed, 236 are married.
Stafford Rd. Wks.	Two women employed cleaning offices before 9 a.m., both widows.
Stoneywood Works	None.
Tailors' Agency	28 out of 71.
Winfield & Co.	15 to 20.

11. What regulations are made to enable them to attend to their family and domestic duties?

Adams	Employment of married females exceptional. No special rules therefore are required to be made for them.
Akroyd	Married females and those having the charge of their father's houses, have the privilege of leaving at meal times ten minutes before the rest of the hands.
Bessbrook Spinning Co.	We only allow married women to work in our establishment, when the necessities of the family appear to require it absolutely, in which case we allow them a quarter of an hour longer than others at meal times.
Bliss	Proper meal hours are allowed, and they are not required to come to work before breakfast in the winter.
Brook & Brothers	We have no rules, but are satisfied that the children are not neglected.
Campbell & Co.	See answer to question 10.
Compstall Mill, &c.	The mothers of families generally remain at home to attend to domestic duties.
Crossley	All work the hours appointed by the Factory Act.
Denaby Pottery	All of them work with their husbands and family, and a cooking room is provided on the works. The Factory Act restricts their hours of labour.
Dowlais Iron Co.	None; because few of them have families, and as all work by piece, they can and do arrange their own hours.
Fox, Head, & Co.	None.
Gilford Mills	One hour daily allowed them extra for meals, and the assistance of relatives and friends.
Greening & Co.	See previous reply.
Hannington	The hours of business are so arranged for the married men and women to have every facility, they do not come until after breakfast, as the necessary work is done by the single men, previous to 9 o'clock, a.m.
Hare & Co.	They are all paid by piece-work, and leave given to quit the works for such duties when they please; they are also paid on

Names.	
Hare & Co.—*cont.*	Friday that they may go to market early on Saturdays, when a half holiday is granted.
Henderson & Co. -	Married women are allowed to go to their homes half an hour earlier (previous to each meal) than the other factory workers.
Hitchcock & Co. -	Early closing. Warehouse and shop closed four months of the year at 6 o'clock, four months at 7 o'clock, and four months at 8 o'clock: and at 2 o'clock on Saturday all the year. 17 days Summer holiday, and Christmas Day, Good Friday, and other general holidays.
Huntley & Palmers	The factory is closed on Saturday at 1 o'clock.
Laverstoke Mills	They are given a "pass" on application. This enables them to leave their work whenever necessary. Short hours and early closing (*See* No. 20).
The London Dressmaking Co.	The hours for work are limited to 10 hours each day. After work hours the workers are allowed to visit their families.
New Eagley Mills	No specific regulations.
Panmure Works -	They have no families.
Peek, Frean, & Co.	*See* No. 10.
Ransome & Sims -	*See* last answer.
Saltaire - -	The males are able to obtain such remuneration that no encouragement is given to the employment of married females.
Tailors' Agency -	None.
Winfield & Co. -	Shorter periods of labour, of one or two hours less per day.

12. Are any arrangements made for the protection of young females whose employment necessitates their leaving home?

Adams - - -	Yes. See *Appendix*.
Akroyd - -	There are no cases of the kind.
Bessbrook Spinning Co.	We allot houses to respectable matrons, for the purpose of providing accommodation and protection for the above class. We also retain a missionary, part of whose duty it is to look after such young women.
Bliss - - -	Lodgings are prepared for them, and an evening school provided, where they are taught reading and writing, needlework, and are read to. Mess-rooms are provided at the Lower Mills for all the female hands, a respectable matron being appointed to take charge of the same, preparing their meals, and protecting them to and from work, and who is responsible for their comfort and good conduct.
Brook & Brothers	All except a few lodging in the village return home every night, and being distant from any town no protection has been found necessary.
Campbell & Co. -	The few females who do not live with their own families lodge with families living in our own houses.
Compstall Mill, &c.	It is an exceptional case when any are needed; but if any disrespect is shown to any one of them, the proprietors institute strict inquiries, and if the offence is repeated, expel the offender.
Crossley - -	All young females reside with their parents or with their relations or friends.
Denaby Pottery -	None other than a general supervision.
Dowlais Iron Co.	They work with their fathers or brothers, or together under the charge of a proper person.
Fox, Head, & Co. -	None.
Gilford Mills -	Comfortably lodged with long resident and respectable families, and placed under the immediate supervision of their respective clergy.
Greening & Co. -	The young females employed are always the relatives of adult workmen.
Hannington - -	All who work on the premises leave business when the shops are closed, and for the most part, reside with their parents,

Names.	especial care being taken that none but respectable persons are employed; many are under the charge of two or three establishments in the town, whom we fully employ in the seasons.
Hannington—*cont.*	
Hare & Co. - -	Their homes are close to the works, and they accompany generally a parent or relative also employed.
Henderson & Co. -	There is no occasion for such arrangements, as no liberties are ever taken with the young females of the factory.
Hitchcock & Co. -	The female assistants and domestics have separate apartments as explained in Appendix.
Huntley & Palmers	They have a room used by themselves only.
Laverstoke Mills	All, with two exceptions, reside with their parents or relatives. The "two exceptions" (one of whom is deaf and dumb), are respectably lodged near the mills.
The London Dressmaking Co.	All the workers reside in the house.
New Eagley Mills	None whatever; they mostly reside near.
Panmure Works -	In the dwelling houses erected by the firm for the accommodation of their workpeople there are furnished single apartments for young females under the supervision of the heads of families occupying the adjacent rooms, and it is part of the duty of the lady superintendent of the institute to visit and watch over them.
Peek, Frean, & Co.	All the young women employed reside in the neighbourhood with their friends.
Ransome & Sims -	See above.
Saltaire - -	No special separation of the sexes is made. Generally the weaving is performed by women, and the spinning by children, with male overlookers in both departments. Education and religious instruction relied upon.
Stoneywood Works	Most of our young females live with their families in this neighbourhood. The few that belong to Aberdeen go in and out, morning and evening, by special trains.
Tailors' Agency -	None.
Winfield & Co. -	They are under the special supervision of the elder married women, who are forewomen.

13. Has the establishment been remunerative, or otherwise?

Adams - - -	Remunerative.
Akroyd - -	Remunerative.
Bessbrook Spinning Co.	It has.
Bliss - - -	Yes. It has been profitably carried on for the whole 110 years by William Bliss and his ancestors.
Briggs - - -	Yes.
Brook & Brothers	Yes.
Campbell & Co. -	Yes.
Compstall Mill, &c.	Yes.
Consett Iron Co. -	Yes.
Crossley - -	Remunerative.
Denaby Pottery -	Has not paid more than 10 per cent.
Dowlais Iron Co.	Yes.
Fox, Head, & Co. -	Owing to its comparatively recent formation, and the general difficulties under which the trade has been labouring of late, it has not yet become thoroughly remunerative.
Gilford Mills -	Decidedly remunerative.
Greening & Co. -	The establishment has been profitable from the first, having been commenced by Greening, Brothers, almost without capital, and worked up to its present point out of profits.

Names.	
T. F. & T. M. Hale	Remunerative.
Hannington - -	Yes, with a continued increase of business. Increase since 1856, 23·64 per cent. (See Appendix.)
Hare & Co. - -	Remunerative.
Henderson & Co. -	Yes; fairly remunerative.
Hitchcock & Co. -	Yes. Remunerative.
H. & A. Holmes -	Very fairly remunerative.
Huntley & Palmers	Remunerative.
Laverstoke Mills	Yes; very.
The London Dressmaking Co.	Although business was commenced only on the 25th March 1865, a profit has been made for the year 1866.
New Eagley Mills	Remunerative since free trade has been established, but not always profitable before.
Panmure Works -	Uniformly remunerative.
Peek, Frean, & Co.	Remunerative.
Ransome & Sims -	It has been remunerative.
Saltaire - -	Rather, than otherwise.
Stoneywood Works	Yes.
Tailors' Agency -	Yes. Wages paid in 1854, 3,952*l.* 19*s.* 2*d.*; in 1865, 10,575*l.* 8*s.* 7*d.* (Vide Wages Table, Pamphlet.)
Winfield & Co. -	Remunerative.

14. Is any pecuniary assistance received from the Government, or from any other body not participating in the profits? If so, define its nature and amount.

Adams - - - -	No.
Akroyd - -	No.
Bessbrook Spinning Co.	No.
Bliss - - -	None whatever; it is entirely self-supporting.
Briggs - - -	A Government grant of 70*l.* per annum has been received in aid of the schools connected with the Collieries.
Brook & Brothers	None.
Campbell & Co. -	No.
Compstall Mill, &c.	None.
Consett Iron Co. -	No.
Crossley - -	No.
Denaby Pottery -	None.
Dowlais Iron Co.	The schools are under the Privy Council, and obtain a variable share of the annual grant on examination.
Fox, Head, & Co. -	None from Government nor any other source out of the ordinary course of business.
Gilford Mills -	None.
Greening & Co. -	No outside assistance has ever been given or sought up to the present time. At the formation of the new Company several gentlemen were admitted as shareholders, along with Edward Owen and Joseph Greening.
T. F. & T. M. Hale	No assistance has been received at any time.
Hannington - -	No.
Hare & Co. - -	No pecuniary assistance.
Henderson & Co. -	None.
Hitchcock & Co. -	No.
H. & A. Holmes -	No.
Hooper - -	None.
Huntley & Palmers	No.
Laverstoke Mills	No.
The London Dressmaking Co.	None.

Names.	
New Eagley Mills	No assistance received from any quarter.
Panmure Works -	None.
Peek, Frean, & Co.	No.
Ransome & Sims -	Not any.
Saltaire - -	None whatever.
Stoneywood Works	No.
Tailors' Agency -	None.
Winfield & Co. -	None.

15. Has the establishment any special privilege or monopoly of any kind, and what is its nature?

Adams - - -	No.
Akroyd - -	No.
Bessbrook Spinning Co.	None.
Bliss - - -	None whatever.
Briggs - - -	No.
Brook & Brothers	None.
Campbell & Co. -	No.
Compstall Mill, &c.	None.
Consett Iron Co. -	No.
Crossley - -	No.
Denaby Pottery -	None.
Dowlais Iron Co.	None.
Fox, Head, & Co. -	The firm have no special privilege or monopoly of any kind.
Gilford Mills -	None.
Greening & Co. -	The establishment has one or two patents and registered designs, granted in the ordinary way, for inventions of the partners or workpeople.
T. F. & T. M. Hale	No monopoly of any kind.
Hannington - -	No.
Hare & Co. - -	No privilege or monopoly.
Henderson & Co. -	None.
Hitchcock & Co. -	No.
H. & A. Holmes -	No.
Hooper - -	None whatever.
Huntley & Palmers	None.
Laverstoke Mills	It has no monopoly. Its only privilege is that of having, and having had, the confidence of the Bank of England for about one century and a half as its employer.
The London Dressmaking Co.	None.
New Eagley Mills	None whatever.
Panmure Works -	None.
Peek, Frean, & Co.	No.
Ransome & Sims -	No other than its property in patents.
Saltaire - -	None.
Stafford Rd. Wks.	Is not a commercial establishment, being used only for the Great Western Railway Company's engine repairs and renewals or building.
Stoneywood Works	No.
Winfield & Co. -	None; except those secured by several patent rights.

15a. Enclose a copy of all rules framed for the government of the establishment, or any information which may specially refer to it, and any plans of the buildings.

Adams - - -	See *Model Warehouse referred to in Appendix.*
Akroyd - -	*Copy sent with these answers.*

Names.	
Bliss - - -	Sent in and referred to in the *Appendix* is a list of the rules, vignette of the works, together with photographic views of the various buildings attached, and of the schools, and cottages. William Bliss and Son's ancestors were the first to introduce horse clothing into this country—a pattern of materials for this purpose (made 80 years ago) is appended—and they were amongst the first to introduce and bring to perfection the make of tweeds, so much so, that within the last 30 years the hands employed have increased from 150 to 500, and wages from 2,000*l.* to 15,000*l.* annually, causing now a circulation of about 25,000*l.* in this small town of 3,200 inhabitants. No dispute has ever arisen about work or wages between employed and employers.
Campbell & Co. -	Rules sent herewith.
Crossley - - -	Sent with these answers is a view of the works at Halifax, so far as can be seen from one point.
Dowlais Iron Co.	Our only written rules relate to the mines, of which copies marked A. are enclosed.
Fox, Head, & Co. -	Copy of rules and conditions and plan of works, *see Appendix.*
Gilford Mills -	Ground plan and index of the works, &c., and copy of rules enclosed, also coloured print of the works, &c.
Greening & Co. -	With this claim I forward the following documents : 1st. A general catalogue of the Company's manufactures. 2nd. An address to the workpeople on the formation of the new Company, and the introduction of the industrial partnership principle. 3rd. A report of the first meeting of the new Company, with Directors' report attached. 4th. Article from "Times" newspaper, 26th May 1866. Article from "Spectator" newspaper, 26th May 1866. 5th. Papers descriptive of a second industrial partnership enterprise, originating out of this, and formed by me, viz., the "South Buckley Coal and Fire-brick Company." 6th. Papers descriptive of a third industrial partnership, viz., the "Cobden Memorial Cotton Mills," originated and formed in like manner. 7th. Rules of a fourth industrial partnership undertaking, "The Lloyd and Summerfield Co-partnership," formed by me at the request of the proprietor, Dr. Lloyd, Glass Manufacturer, of Birmingham. 8th. Miscellaneous papers published by me upon the subject. Edwd. Owen Greening, Manchester, Applicant. January 26th, 1867.
Hannington -	See detailed appendix.
Hare & Co. -	There are no set or written rules excepting those having reference to hours of work, meal times and holydays; each department is under the immediate superintendence of a partner who enters into every detail, and the wages are weekly paid in his presence. Special information will be found added (see question 62), also a copy of a publication in great repute, called "Old Jonathan" (15 Jan. 1863) containing an incident in the life of the founder of the establishment; of the "Illustrated London News" (16 August 1862) referring to the harmony and cordial good feeling between the employers and employed; the "Bristol Daily Post" (of 3 April 1865), giving full particulars of each branch of the establishment, and of the "Bristol Times and Mirror" (18 August 1866) with an account of the employers last annual treat to their work-people and their relations.

Names.	
Hare & Co.—*cont.*	Plans of the buildings, as the works stand upon 10 acres of land extending into three parishes of Bristol, cannot possibly be supplied within the time given for filling up this form, it being six clear days only.
Henderson & Co. -	Rules are now sent.
H. & A. Holmes -	Enclosed copies, dated 1st January 1842 and 1st January 1866.
Hooper - -	"Enclosed." New buildings are now occupied.
Laverstoke Mills	Copies of some rules are herewith forwarded.
New Eagley Mills	The rules are the Factory Laws.
Panmure Works -	Rules herewith transmitted.
Peek, Frean, & Co.	Six sets of rules, two sets of plans of buildings accompany this.
Ransome & Sims -	Sent herewith. See Appendix A.
Saltaire - -	General information and plans are appended.
Stoneywood Works	These enclosed.
Tailors' Agency -	A printed statement of the history and nature of the business follows the page containing the certificate.
Winfield & Co. -	Report enclosed herewith. See Report marked A, and framed architectural drawing of school.

16. Of how many partners does the establishment consist?

Adams - - -	Joint stock.
Akroyd - -	The firm of James Akroyd and Son is vested solely in Edward Akroyd, Esq., M.P. for Halifax.
Bessbrook Spinning Co.	Two.
Bliss - - -	Two only—father and son.
Briggs - - -	248 Shareholders, of whom, 85 are employed by the Company, and 31 are large buyers of the produce of the Collieries.
Brook & Brothers	Three.
Campbell & Co. -	Three.
Compstall Mill, &c.	Two.
Consett Iron Co. -	Is always varying; about 500.
Crossley - - -	1,031 shareholders.
Denaby Pottery -	Two.
Dowlais Iron Co.	It is a private property.
Fox, Head, & Co. -	Three.
Gilford Mills -	Two, John Walsh McMaster, and his son Hugh Dunbar McMaster.
Greening, & Co. -	45 to 50.
T. F. & T. M. Hale	Two.
Hannington - -	See Question No. 2.
Hare & Co. - -	Four, namely, two senior and two junior. (See Question, No. 2.)
Henderson & Co. -	Three partners.
Hitchcock & Co. -	Two.
H. & A. Holmes -	Two, H. and A. Holmes.
Huntley & Palmers	Three.
Laverstoke Mills	Two.
The London Dressmaking Co.	398.
New Eagley Mills	Two.
Panmure Works -	Three.
Peek, Frean, & Co.	Three.
Ransome & Sims -	Four.
Saltaire - -	Five, Mr. Salt, three sons, namely, Mr. George Salt, Mr. Edward Salt, Mr. Titus Salt, jun., and Mr. Charles Stead.

Names.	
Stoneywood Works	Five.
Tailors' Agency -	The business is vested in a proprietor.
Winfield & Co. -	Three.
	17. Is their pecuniary responsibility limited?
Adams - - -	Yes.
Akroyd - -	No.
Bessbrook Spinning Co.	No.
Bliss - - -	No, it is unlimited.
Briggs - - -	Yes.
Brook & Brothers	No.
Campbell & Co. -	No.
Compstall Mill, &c.	No
Consett Iron Co. -	Yes.
Crossley - -	Yes.
Denaby Pottery -	No.
Fox, Head, & Co. -	No. We believe there is no other establishment of importance in this country where the system of co-partnership or co-operation has been introduced, without being turned into a limited company. We also believe the plan of inviting loans from workmen as arranged by us is original. These regulations are framed with an especial view to facilitate the bettering of the condition of the working men by themselves. The advantage would be mutual. The men want to invest and the firm are in a position to lay out to advantage; at least this should be the condition of a rising and thriving business. At the time of our commencing on the co-operative plan, "limited" companies were in such bad repute that we deemed it unadvisable to make a change in that direction. Strange to say, too, the union leaders spoke against our plan, and spent a great deal of time and money in actively opposing and throwing discredit upon it. They used many artifices to prevent our carrying out the "Non-Union" clause, (see copy of letter to Newcastle Chronicle enclosed.) For this purpose we believed it essential that for a time at all events we should keep absolute power in our own hands, otherwise the Union would have worked some of their agents into our employ and then have prevented the scheme having a fair trial. When we are satisfied that our labour market is really free and unfettered, we shall be disposed to relax this condition, but not so long as irresponsible and interested persons exercise influence over the men. We are also the only firm who have as yet introduced the co-operative principle into that leading branch of English industry, the iron trade. It is this branch which has of late been more disturbed than any other, and the amount of loss and misery resulting have rendered the avoidance of a repetition a matter of national interest. Unless some antidote is discovered the bulk of our iron trade must pass into other countries.
Gilford Mills -	Not limited.
Greening & Co. -	Yes.
T. F. & T. M. Hale	No.
Hare & Co. - -	Not limited except to the extent of their means.
Henderson & Co. -	No; it is unlimited.
H. & A. Holmes -	No.
Huntley & Palmers	No.
Laverstoke Mills	No.
The London Dressmaking Co.	Yes, to the amount of their shares.

Names.	
New Eagley Mills	No.
Panmure Works -	No.
Peek, Frean, & Co.	No.
Ransome & Sims -	No.
Saltaire - -	No.
Stoneywood Works	No.
Winfield & Co. -	Not limited.

18. Is the capital divided into shares or owned in parts? If so, how many, and of what amount, or in what proportions?

Adams - - -	18,000 shares of 20*l.* each; upon 9,000 of which 10*l.* per share has been paid, and 9,000 4*l.* per share has been paid.
Bessbrook Spinning Co.	No.
Bliss - - -	All the capital belongs to the above William Bliss and Son.
Briggs - - -	In 9,000 shares of 15*l.* each, on which 10*l.* for share, or a gross capital of 90,000*l.* is paid up.
Brook & Brothers	Three parts.
Campbell & Co. -	Each partner one third.
Compstall Mill,&c.	In equal shares.
Consett Iron Co. -	Capital 460,000*l.*, in 10*l.* shares; 7*l.* 10*s.* paid up.
Crossley - -	The capital is divided into shares, say 110,000 shares of 15*l.* each, with 10*l.* per share paid up.
Denaby Pottery -	In parts; the two principal 4,000*l.* each; and several of the workpeople from 20*s.* to 20*l.* each.
Fox, Head, & Co. -	The capital has been provided by the three partners above mentioned. Each partner shares alike after paying any bonus as per the co-operative scheme.
Greening & Co. -	The nominal capital is 50,000*l.*, divided into 10,000 shares of 5*l.* each, but only 4,000 shares have been issued, viz., 2,000 to Edward Owen Greening and Joseph Greening, and 2,000 to all the other shareholders.
T. F. & T. M. Hale	Capital divided in two parts equally.
Hare & Co. - -	Into shares or eighteenths, each senior possessing seven eighteenths, each junior possessing two eighteenths.
Hitchcock & Co. -	No.
H. & A. Holmes -	Owned in two parts by the two members of the firm in equal proportions.
Laverstoke Mills	No.
The London Dressmaking Co.	The capital is 20,000*l.* in 2,000 shares of 10*l.* each, 6,275*l.* has been paid up.
New Eagley Mills	The capital is owned by the proprietor and his son.
Ransome & Sims -	The capital is divided into shares, owned in different proportions by the partners.
Stoneywood Works	These are private arrangements amongst the partners.
Winfield & Co. -	Owned in parts.

19. During the last five years, what has been the average yearly profit per cent., and in what proportion, and according to what principle, has it been divided among—

(1.) The partners or shareholders.
(2.) The workpeople.
(3.) Any other persons.
(4.) Devoted to capital or other purposes?

Adams - - -	See *Appendix*.
Bessbrook Spinning Co.	Being a private concern we presume the above question is not intended to be answered.

Names.	
Bliss - - -	The partners or shareholders, William Bliss and Son, all profits, the workpeople having increased salaries and gratuities given to them for merit. (4.) All to additional capital, extension of works, and increased accommodation for all the workpeople employed.
Briggs - - -	(1.) During the year ending 30th June, 1866, being the only financial year that has elapsed since the Company was established, 12 per cent. on paid up capital. (2.) A bonus on their earnings equivalent to an average of 7½ per cent. on the earnings, or 2 per cent. on the capital. (4.) A sum equal to 6 per cent. on the capital.
Campbell & Co. -	Profits divided among partners.
Compstall Mill, &c.	Partners equally.
Consett Iron Co. -	Between 9 and 10 per cent., payable to shareholders. Some of the agents and foremen are paid by a per-centage on dividends.
Crossley - -	The first dividend was 15 per cent. per annum; the second 20 per cent. per annum, paid to each shareholder according to the number of his or her shares.
Fox, Head, & Co. -	Not having been at work five years this question does not apply.
Gilford Mills -	Among partners only.
Greening & Co. -	Before 1865 the profits averaged 15 per cent. on the actual capital of the concern, and the whole was appropriated by the two partners in the usual way. Since the establishment of the Company one dividend at the rate of 15 per cent. per annum has been given to the shareholders, and a bonus of 5 per cent. has been paid to the workpeople upon their wages. See also 15*a*.
T. F. & T. M. Hale	The partners.
Hannington - -	The result of the profit of the past year was divided as follows:

	Per Cent. of the Profit.
The partners or shareholders a proportion of -	15·37
Assistants, for salaries, and premiums to buyers	37·58
The work-people's wages charged in cost of made-up goods.	
Any other persons - - - - -	5·68
Working expenses, including house Expenses, for keep of assistants, and general repairs, &c. &c. - - - - - - -	33·53
Devoted to capital or other purposes - -	6·26
Business donations, &c. - - - - -	1·58
	100·00

Hare & Co. - -	(1.) See Question No. 18. (2.) Wages between 10,000*l.* and 11,000*l* yearly. (3.) Clerks and travellers about 2,500*l.* yearly. (4.) None.
Henderson & Co. -	This question answered by the previous question.
The London Dress-making Co.	No profit was made until 1866, and no dividend has yet been declared.
New Eagley Mills	During the last five years, the American war has disturbed or destroyed the profits of the cotton manufacturer.
Ransome & Sims -	See answer to question 17.
Stoneywood Works	Sufficient to say that the establishment has been prosperous.
Tailors' Agency -	The business has yielded a clear profit of 600*l.* per year to the proprietors from 1861 to 1866.
Winfield & Co. -	(1.) Profits exclusively to partners. (2.) Do not participate.

Names.	**20. What are the daily number of hours of work at the establishment, exclusive of meal-times?**
Adams - - -	9⅓ hours.
Arroyd - -	On five week-days, ten and a half hours per day. On Saturdays, seven and a half hours per day. The average being ten hours daily.
Bessbrook Spinning Co.	10 hours per day.
Bliss - - -	Ten hours; which are never exceeded, except by fitters engineers, and others, for repairs.
Briggs - - -	Eight hours for workmen employed underground, and 10 hours for other workmen.
Brook & Brothers	10½ each day; 7½ hours on Saturday. 60 hours per week.
Campbell & Co. -	60 hours per week.
Compstall Mill, &c.	10½ hours, Saturdays 7½ hours.
Consett Iron Co. - -	Twelve hours work; breakfast, dinner, and tea taken on the premises (double shift).
Crossley - -	10½ hours each for the first five days of the week, and 7½ hours for Saturday, the works being closed on that day at 2 o'clock = 60 hours per week.
Denaby Pottery -	Ten hours per day.
Dowlais Iron Co.	No man works over 10 hours, but the works necessarily go on night and day.
Fox, Head, & Co. -	Ten and a half hours (10½) for day men, and about the same is averaged by piece men who however are not strictly tied to time.
Gilford Mills -	60 hours per week, or 10 hours daily.
Greening & Co. -	Average, 9½ hours; but Tuesday, Wednesday, Thursday, and Friday in each week are made one hour longer, to allow of half-holiday on Saturday.
T. F. & T. M. Hale	6 a.m. to 6 p.m., with time allowed for breakfast, quarter of an hour at 11 a.m., dinner 1 to 2, tea at 5.
Hannington - -	Average of 10 hours.
Hare & Co. - -	10½ hours, excepting in winter in the chief or floorcloth department where the hours of work are from sunrise till sunset.
Henderson & Co. -	Sixty hours a week—according to the Factory Act. Working overtime strictly discouraged.
Hitchcock & Co. -	Five days of the week 10 hours, on Saturdays 5 hours. No business done on Sundays. If there is a pressure of business in any department the assistants in that department have to stay after the warehouse or shop is closed.
H. & A. Holmes -	10⅓ hours on Monday, Tuesday, Wednesday, Thursday, and Friday, and 6⅓ hours on Saturday. The labourers and apprentices work one hour longer on Saturdays to clean all the workshops, windows, &c.
Huntley & Palmers	Ten.
Laverstoke Mills	Average, men and boys, 9 hours, women and girls 7 hours.
The London Dressmaking Co.	Ten hours.
New Eagley Mills	See Factory Law. 10½ hours daily for five days; 8 hours on Saturday.
Panmure Works -	Ten and a half hours for five days and seven and a half hours on Saturdays, in all 60 hours a week.
Peek, Frean, & Co.	First four days. Friday. Saturday. Hours. For males 10½ 10 6½ 58½ per week. For females 9½ 9 5½ 52½ per week.
Ransome & Sims -	Monday to Friday inclusive, from 6 o'clock a.m. until 6 o'clock p.m., with three-quarters of an hour off for breakfast and an hour off for dinner; on Saturday, from 6 o'clock a.m., until 2 o'clock p.m., with three-quarters of an hour off for breakfast. For further particulars as to hours of working, see "Rules and Regulations to be observed at the Orwell Works."

Names.	
Saltaire - -	For an adult 60 hours per week; for children 30 hours per week.
Stafford Rd. Wks.	Average $9\frac{3}{4}$ hours.
Stoneywood Works	About 10 hours.
Tailors' Agency -	Ten hours.
Winfield & Co. -	$9\frac{1}{2}$ hours each day, except Saturday, when, on account of the half-holiday, the time made is only $5\frac{1}{2}$ hours.

21. What are the average weekly wages now earned?
a. **By a family.**
b. **By a single workman.**
c. **What are the highest weekly wages?**
d. **What are the lowest?**

Adams - - - Females average, 10*s.*; porters, 20*s.* per week; clerks and warehousemen have yearly salaries, varying.

Bessbrook Spinning Co. *a.* A family of 4 or 5 workers would earn about from 40*s.* to 50*s.*; *b.* A single workman would earn from 20*s.* to 30*s.* on an average. *c.* 36*s.* *d.* 1*s.* 6*d.*

Bliss - - - *a.* About 40*s.*; some as much as 60*s.* *b.* 25*s.*; some as much as 55*s.* *c.* 55*s.* *d.* 12*s.* Excepting clerks and superintendents, who have from 100*l.* to 240*l.* per year.

Briggs - - - *b.* 36*s.* underground, 18*s.* to 30*s.* on surface. *c.* 42*s.* 6*d.* for labourers employed underground. *d.* Boys 9*s.* to 15*s.*

Brook & Brothers *c.* Men, 36*s.*; women above 18, 14*s.* *d.* Men, 18*s.*; women, 8*s.*

Campbell & Co. - *a.* Every worker receives his or her own wages.

b. c. d.		£	*s.*	*d.*
	Average weekly wages of men - -	1	0	8
	Highest - - - - - -	3	0	0
	Lowest - - - - - -	0	11	0
	Average weekly wages of boys -	0	13	7
	Highest - - - - - -	0	15	0
	Lowest - - - - - -	0	2	9
	Average weekly wages of females -	0	7	0
	Highest - - - - - -	0	12	9
	Lowest - - - - - -	0	3	0

Compstall Mill, &c. *a.* No answer. *b.* 25*s.* *c.* 50*s.* *d.* 10*s.*

Crossley - - The wages are paid individually, and they vary from 2*s.* per week (as paid to our youngest short-timer) upwards, according to the employment in which each is engaged; but the average of all is 13*s.* 1*d.* per head.

Denaby Pottery - *a.* Of three persons, 3*l.* *b.* 25*s.* *c.* 35*s.* *d.* 21*s.*

Dowlais Iron Co. *a.* 45*s.* per week. *b.* 23*s.* per week. *c.* 3*l.* *d.* 11*s.* 6*d.*

Fox, Head, & Co. - *b.* 1*l.* 4*s.* 10½*d.* *c.* 5*l.* 13*s.* This is for a plate-roller, an ordinary skilled workmen. The week in question was not considered a good one. His earnings may be taken at, at least 300*l.* per annum. *d.* 8*s.* for a boy.

Gilford Mills - *a.* 36*s.* *b.* 15*s.* *c.* 50*s.* *d.* 4*s.*

Greening & Co. - *a.* Employment by families not carried on. *b.* 28*s.* *c.* 2*l.* *d.* 18*s.* for an adult.

T. F. & T. M. Hale *b.* Average 25*s.* to 35*s.* a week. *c.* 50*s.* *d.* 20*s.* to 22*s.*

Hannington - - In the made-up dresses, mantles, carpet, and upholstery departments: *b.* 30*s.*; needle-woman, 9*s.* to 19*s.* per week. *c.* Highest man's weekly wages, 42*s.* *d.* 20*s.*

Salesmen from 20*l.* to 600*l.* per annum, exclusive of premiums to buyers (with board for all, and lodgings for single men). Saleswomen and fore-women, from 45*l.* to 80*l.* per annum, reside and board in the house.

Hare & Co. - - *a.* 1*l.* 10*s.* *b.* 21*s.*, women 9*s.*, boys 5*s.*, girls 5*s.* *c.* 4*l.* *d.* 3*s.* (girls and boys learning). Several of the workmen have their wives and children employed in the flax mills.

Names.	
Henderson & Co.	*b.* Wages of adult workmen about 24*s.* per week. *c.* 3*l.* 9*s.* 2*d.* *d.* 16*s.* per week.
H. & A. Holmes	*b.* Being employed at the trade. *c.* 36*s.* *d.* 22*s.* Labourers are paid from 14*s.* to 16*s.* per week.
Hooper	*a.* Not employed by families. *b.* From 26*s.* to 3*l.* 10*s.*, say 35*s.* average. *c.* About 3*l.* 10*s.* *d.* Men 20*s.*, boys 6*s.*
Huntley & Palmers	*b.* About 15*s.* *c.* 40*s.* *d.* 3*s.*
Laverstoke Mills	*a.* From 2*l.* to 3*l.* *b.* 30*s.* *c.* 30*s.* to 40*s.* *d.* of a child, 3*s.*
The London Dressmaking Co.	8*s.* besides board and lodging. *c.* 60*l.* per annum. *d.* 8*l.* per annum.
New Eagley Mills	*a.* 3*l.* 19*s.* *b.* 2*l.* *c.* 2*l.* 10*s.* *d.* 2*s.* for half time.
Panmure Works	*a.* Consisting of a father, son, and three daughters, 3*l.* 10. *b.* 24*s.* *c.* Male, 35*s.*; female, 18*s.* *d.* Male, 14*s.*; female, 8*s.* The above does not refer to managers or clerks.
Peek, Frean, & Co.	Boys, 4*s.* 6*d.* to 12*s.*; young men, 14*s.* to 18*s.*; girls, 4*s.* to 7*s.*; young women 8*s.* to 12*s.*; labourers, 18*s.* to 25*s.*; bakers, 24*s.* to 32*s.*; mechanics, 30*s.* to 36*s.* The rates to foremen are special, and not herein included.
Ransome & Sims	20*s.* per week. *b.* Foremen, 60*s.* *c.* 36*s.* *d.* 12*s.* The youngest boys on entering, 2*s.* 6*d.* Workmen on piecework earn more; a large number of the workmen are paid by the piece.
Saltaire	*a.* (Consisting of a father and six children), 84*s.* *b.* 24*s.* per week. *c.* 35*s.* *d.* 15*s.*
Stafford Rd. Wks.	*b.* 22*s.* This is the average for all hands, apprentices included. *c.* 34*s.*, day work, increased to 45*s.* by piece work. *d.* 4*s.*
Stoneywood Works	*a.* From 2*l.* to 4*l.* *b.* Single workmen about 15*s.* to 16*s.* The average over whole mill, women and men, girls and boys, is about 10*s.* *c.* 34*s.* *d.* 3*s.* 6*d.*, youngest girls.
Tailors' Agency	*a.* 1*l.* 11*s.* 6*d.* *b.* 1*l.* 3*s.* 6*d.* *c.* 2*l.* *d.* 10*s.* 6*d.*
Winfield & Co.	*a.* Families not employed as such. *b.* Foreman, by piecework, about 50*s.* per week; dayman, 30*s.* *c.* 100*s.* *d.* 18*s.*

22. Have any, and what, systems been adopted (payment by the piece or other) to stimulate the industry of the workpeople?

Adams	Piece-work wherever possible.
Akroyd	The workpeople are paid by piece, and bonuses are given in certain cases for the purpose of stimulating to extra exertion.
Bessbrook Spinning Co.	Most of our work is paid by the piece.
Bliss	The great majority of work is paid for by the piece, and rewards are given annually to those hands who turn out the largest quantity of the best work.
Briggs	At least three-fourths of the workpeople are paid by the piece, besides which *all* persons employed are allowed to participate in the profits made over and above 10 per cent. on the capital, one half of such profits being distributed as a bonus on their respective earnings.
Brook & Brothers	A very large proportion on piece work.
Campbell & Co.	Hacklers and reelers paid by the piece; all others fixed daily wages.
Compstall Mill, &c.	Piece-work is adopted as much as possible.
Consett Iron Co.	In many cases work is paid by piece.
Crossley	Payment by the piece has been largely adopted, and found to be far preferable to day wages.
Denaby Pottery	All by piece that can be so paid.
Dowlais Iron Co.	Piece-work wherever practicable, as is generally the case.

Names.	
Fox, Head, & Co. -	Most of our men are paid by the ton. A few only by the day where it is difficult to arrange it otherwise.
Gilford Mills -	Payment by piece, fines, rewards, and bonuses.
Greening & Co. -	By degrees the system of payment by the piece has been introduced for most classes of work, but a time-work price (average 28*s.* per week) is also fixed for such work as is unusual in its character.
T. F. & T. M. Hale	Piece work to encourage the industry of the workmen; it is found to answer better than day work.
Hannington - -	The needlewomen are divided into groups, each superintended by a forewoman, who pays those under her superintendence, and recommends them for increased wages according to industry. Separate accounts are kept for each group, and premiums awarded every six months to the forewomen of the two tables, whose work has been most satisfactory.
Hare & Co. - -	Payment by piece-work wherever practicable.
Henderson & Co. -	In every case where it is possible the workers are paid by the piece.
H. & A. Holmes -	All the work is by the day. An account is taken of the cost of the work in most branches of the business, and industrious workmen have their wages raised in proportion to their earnings.
Hooper - - -	Mostly by the piece, on a liberal tariff to ensure good work, and enable the men to earn more than when paid by the day.
Huntley & Palmers	Piece work in some cases.
Laverstoke Mills	Payment by the piece wherever practicable. A "premium" is given on the result of the daily work of each person employed whenever practicable, on the examination of his work.
New Eagley Mills	Chiefly piece work by pound or yard.
Panmure Works -	We pay by the piece, with the exception of those employed in the preparing department, who are paid by a fixed percentage on the number of pieces produced. Mechanics, carpenters, &c. receive weekly wages.
Peek, Frean, & Co.	Constant personal inspection. In the packing department tickets to indicate the quantity of work done.
Ransome & Sims -	When practicable the workmen are paid by the piece; this mode of payment, which works satisfactorily, is preferred by both masters and men.
Saltaire - -	All the weavers and wool sorters work by the piece, and in every other department where it can possibly be adopted.
Stafford Rd. Wks.	Smiths' work, machine work, fitters' work, and new engine building done piece work.
Stoneywood Works	Where amount of work is not regulated by machinery, out of control of the workers, piece work is the rule.
Tailors' Agency -	The whole of the work is paid by the piece.
Winfield & Co. -	Payment by the piece, where practicable, which is preferred by the workpeople.

23. Have dwellings, at the cost of the establishment, been provided for the workpeople?
a. **Of what character?**
b. **When erected?**
c. **How many?**
d. **At what cost?**

Adams - - -	Workpeople being single females reside with their parents or other relatives.
Akroyd - -	Yes, at Copley. *a.* Four-roomed houses in the Gothic style. *b.* 1849. *c.* 123. *d.* About 150*l.* each. *Views of the houses accompany this statement.* See *Appendix*, No. 2.

Names.	
Bessbrook Spinning Co.	Yes. *a.* Very comfortable, two storeys high, with kitchen and scullery, and sleeping rooms above, back yards, privies, &c. Some of them have a sitting room in addition to the kitchen. *b.* During the past 20 years. *c.* 280. *d.* Average about 50*l.* each.
Bliss - - -	Yes. *a.* Cottages, with gardens. *b.* Mostly within the last 20 years. *c.* Seventy-five. *d.* 5,181*l.* 4*s.* 6*d.* Each cottage has a garden attached, and rewards have been given by the proprietors for the best productions for the same. A photographic specimen of these cottages accompanies this.
Briggs - - -	Yes. *a.* Cottages of four rooms. *b.* At various times. *c.* 170 at present. *d.* From 70*l.* to 110*l.* each; 62 more to be built during the present year.
Brook & Brothers	Yes. *a.* Stone buildings. *b.* At various times, as the works increased. *c.* 140 self-contained cottages. *d.* 18,000*l.* to 20,000*l.* No cottage has less than three rooms, most of them have four or five rooms. All supplied with water, gas, and every convenience.
Campbell & Co. -	Yes; 23 two-storey self-contained houses, erected 1860, cost 60*l.* each; 10 two-storey self-contained houses, erected 1860, cost 90*l.* each; gas and water supplied in the house; 16 old cottages.
Compstall Mill, &c.	Yes. *a.* Cottages. *b.* At different times over 30 years. *c.* 413. *d.* 100*l.* each.
Consett Iron Co. -	The company hold upwards of 1,000 cottages of two rooms each.
Crossley - -	The principal works are situated in the borough of Halifax, and the workpeople for the most part live in cottages which they rent from various owners; some live in their own, and the company has recently built a few, each having three bedrooms; but the number is small in comparison with the extent of the works, for the reason that they are not required.
Dowlais Iron -	The company have built and own about 500 cottages, let exclusively to their workpeople; erected at various times during the past century, and at various rates of cost.
Fox, Head, & Co. -	When the works were first built, cottages were scarce. We bought 4½ acres of building land, laid it out and re-sold it to builders and others, under certain conditions. We also leased 32 houses thus built, sub-letting them to our workmen. We would rather have nothing to do with the houses and the men would prefer the same. The lease having just expired it will not be renewed. The firm paid 9*l.* 7*s.* 6*d.* per annum for each house, and let it for 9*l.* 2*s.*, being a loss, exclusive of risk of being empty.
Gilford Mills -	Yes. *a.* Substantial. *b.* From 1836 to 1862. *c.* 200. *d* 10,000*l.*
Greening & Co. -	No. There has never as yet been any available capital for the purpose.
T. F. & T. M. Hale	The number employed has not warranted dwellings being erected.
Hannington - -	All the unmarried men, the saleswomen and forewomen reside on the premises, or are provided with suitable private apartments; the married men live in houses, and Brighton being a large town, affording accommodation for all classes, no further special provision is necessary.
Hare & Co. - -	None, there being plenty in the neighbourhood of the works, and we find they always prefer going where they please.
Henderson & Co. -	There are a few cottages provided by the partners, but not many.

Names.	
H. & A. Holmes -	In part. *a.* Cottages. *b.* At different periods. *c.* 40. From 80*l.* to 120*l.*
Hooper - -	No; this can rarely be done in London.
Huntley & Palmers	None.
Laverstoke Mills	Yes. *a.* Detached cottages. *b.* From time to time as required. *c.* 18. *d.* Average 160*l.* each dwelling, with three and two bedrooms as required.
The London Dress-making Co.	The work-people are all lodged in the Company's premises. The premises are held on lease, and 2,700*l.* has been expended in repairing, fitting, and furnishing them. Each worker has a separate bedroom partitioned off from the rest.
New Eagley Mills	Yes. *a.* Stone. *b.* Various times when required. *c.* About one hundred. *d.* From 100*l.* to 140*l.* each.
Panmure Works -	Dwelling houses, consisting of two storey tenements, with accommodation for 30 families, and 30 self-contained cottages of three rooms each, exclusive of the single apartments for young females already referred to (for dimensions of which see accompanying plans, Nos. 2 and 3), have been erected by the firm since 1858, at a cost of 7,800*l.*, the whole being built of stone and lime. Outhouses and sufficient ground for gardens are attached to each.
Peek, Frean, & Co.	No.
Ransome & Sims -	Yes. *a.* Cottages of five rooms each. *b.* About 1842, part of them, the others earlier. *c.* Sixty. *d.* Forty of these, the property of one of the partners, cost about 4,000*l.*; the remaining 20, which are leased by the firm, cost less.
Saltaire - -	Yes. *a.* See plans. *b.* At various periods since 1853. *c.* 641, 60 now being constructed, 45 almshouses do.; total 746. *d.* 109,562*l.*, exclusive of land, 25,000*l.*
Stafford Rd. Wks.	No.
Winfield & Co. -	Yes. *a.* Three rooms. *b.* 1847. *c.* 30. *d.* About 100*l.* each. These were erected for the accommodation of the work-people at a small branch establishment only.

24. What are the average weekly rents paid for such dwellings?
a. **By a family?**
b. **By a single workman?**

Adams - - -	No answer.
Akroyd - -	*a.* 1*s.* 9*d.* per week. *b.* No answer.
Bessbrook Spinning Co.	*a.* 2*s.* 6*d.* per week. *b.* We never let a house to a single man.
Bliss - - -	*a.* 5*l.* to 7*l.* a year. *b.* He can get lodgings at 2*s.* 6*d.* per week.
Briggs - - -	*a.* 2*s.* 9*d.* per week. *b.* None let to single men.
Brook & Brothers	From 2*s.* to 4*s.* *a.* None.
Campbell & Co. -	*a.* First class, 2*s.* 9*d.*; second class, 2*s.*; third class, 1*s.* *b.* No such occupancy.
Compstall Mill, &c.	*a.* 3*s.* *b.* 3*s.*
Consett Iron Co. -	2*s.* per week.
Crossley - -	The rents of cottages vary from 5*l.* to 10*l.* per annum, and average about 7*l.* 10*s.* to 8*l.*
Dowlais Iron Co.	*a.* 2*s.* to 2*s.* 6*d.* per week. *b.* None, such being always lodgers.
Fox, Head, & Co. -	*a.* 3*s.* 6*d.* and 2*d.* per week for water. *b.* As lodger 2*s.* 6*d.* per week including attendance but not washing.
Gilford Mills -	*a.* 2*s.* 3*d.* *b.* 1*s.*
Greening & Co. -	See above reply (23).
Hannington - -	See Question 23.

Names.	
Hare & Co. - -	*a.* About 10*l.* a year. *b.* About 3*s.* 6*d.* a week including preparation of food.
Henderson & Co. -	*a.* 2*s.* per week. *b.* 1*s.* 6*d.*
H. & A. Holmes -	From 2*s.* 6*d.* to 3*s.* 4*d.*
Laverstoke Mills	*a.* 1*s.* 6*d.* per week. *b.* 9*d.* to 1*s.*
The London Dressmaking Co.	The work-people do not pay rent.
New Eagley Mills	*a.* From 2*s.* 4*d.* to 4*s.* 3*d.*, rates being included, together with water supply and other appurtenants.
Panmure Works -	*a.* 2*s.* 2*d.* *b.* Female, 6*d.*
Ransome & Sims -	2*s.* 11*d.* per week for one portion of the cottages, and from 2*s.* 3*d.* to 2*s.* 6*d.* for the remainder. There are 40 of the better class and 20 of the other. These rents include all rates, taxes, and town charges.
Saltaire - -	Vary from 2*s.* 4*d.* per week to 7*s.* 6*d.* per week, according to size. These payments include all rates and water supply; gas is supplied at a low rate.
Stoneywood Works	For each room in our cottages from 1*s.* to 1*s.* 2*d.* In others, from 1*s.* 6*d.* to 1*s.* 9*d.*
Winfield & Co. -	3*s.* 9*d.* per week, which are occupied by workmen with or without families.

25. Are any, and what, regulations made and enforced relative to periodical cleansing of the dwellings and workshops?

Adams - - -	Annually.
Akroyd - - -	The buildings are lime-washed once a year. They are thoroughly swept out on the Tuesdays, Thursdays, and Saturdays of each week. The workpeople clean the machinery every Saturday. The cleansing of the dwellings is left to the discretion of the several tenants.
Bessbrook Spinning Co.	The houses are whitewashed every year, and a regular system of visiting is performed by the missionary of the establishment for the purpose of enforcing the habit of cleanliness. The rooms of the factory are also washed every week, and whitewashed every year.
Bliss - - -	Mills and workshops whitewashed each year. The above cottages are whitewashed and papered every two years, painted inside and outside every five years regularly, whether they require it or not; and all repairs and additions required by the tenants are made at the expense of the proprietors, William Bliss and Son.
Brook & Brothers	Mills are whitewashed inside once a year. Periodical cleansings are customary among the cottages, which are kept particularly clean, so that no regulations are required. The proprietors look after the cleansing of privies and drains.
Campbell & Co. -	Yards, pits, privies cleaned weekly; chimneys cleaned quarterly; limewashed half-yearly; oil painted every second year.
Compstall Mill, &c.	C ottages are inspected. No regulation as to cleansing; any family habitually dirty and slovenly is sent away; the proprietors supply lime and brushes for lime-washing, all the year round, gratis.
Crossley - -	The workshops are whitewashed every 12 months; the floors are very frequently washed and cleaned, a number of men and women being specially employed for that purpose.
Denaby Pottery -	The cleansing of the workshops is regulated by the Factory Act.
Dowlais Iron Co.	The dwellings are under the stringent regulations of the Local Board of Health.

Names.	
Fox, Head, & Co. -	The above dwellings are now included in the borough of Middlesborough, and the usual sanitary regulations are enforced by the borough officers. Our own works are kept constantly clean by labourers kept for the purpose.
Gilford Mills -	Regular monthly inspection, and thoroughly limewashed, painted, and repaired annually.
Greening & Co. -	The workshops are required to be left perfectly clean at the end of each week, work being suspended several hours earlier, so as to enable this to be accomplished by 1 p.m. on the Saturday, at which time wages are paid, and the hands released. No dwellings are owned by the Company, as already stated.
T. F. & T. M. Hale	The workshops are cleaned each evening and also on Saturday mornings.
Hannington - -	The whole of the premises are cleaned daily, under the immediate supervision of the house steward and his wife.
Hare & Co. - -	Workshops white-limed once regularly every year and painted once in three years. Cleansing of dwellings is rigidly enforced by the Local Board of Health.
Henderson & Co. -	The workshops are whitewashed annually, and painted every third year.
H. & A. Holmes -	They are put into thorough repair, coloured, and painted when workmen enter upon them, and they are expected to keep them clean, &c. A plumber is employed by the firm, who sees that all waterclosets and pipes are in proper working order, and reports any deficiency or repair required not coming under his own department.
Hooper - -	Worklofts are periodically lime whited; during the prevalence of cholera the worklofts were sprinkled with chloride of lime, and a supply of medicine was kept ready for immediate use.
Huntley & Palmers	Factory buildings daily swept and frequently whitewashed.
Laverstoke Mills	All the dwellings are inspected and the necessary repairs made half-yearly. The workshops are cleansed daily.
New Eagley Mills	They are whitewashed annually, and painted every second year, at the cost of the proprietor.
Panmure Works -	The sewerage, &c., are particularly examined every week by the proprietors. Last year upwards of 100*l.* was expended in improving the drainage. The whole dwellings and workshops are limewashed every year.
Peek, Frean, & Co.	Floors swept several times daily. Tables, utensils, &c., thoroughly washed once a week. Water-closets cleansed daily. The entire bakery limewashed twice a year.
Ransome & Sims -	The dwellings are supplied separately with water, and also separately with suitable sanitary conveniences. The agent exercises a degree of surveillance as regards cleanliness, but has of course to guard against being intrusively inquisitorial. The houses are visited weekly and inspected quarterly. All the workshops are thoroughly cleaned out at least once every week, some of them daily.
Saltaire - -	The cleansing of the dwellings is a continuous process. During the visitation of cholera disinfectants were gratuitously supplied, and no case occurred at Saltaire. The mills, sheds, &c., are cleansed every week, and whitewashed throughout once a year.
Stafford Rd. Wks.	Workshops are kept clean, and whitewashed as required.
Stoneywood Works	Each room is well cleansed weekly, and whitewashed, &c. when required.
Tailors' Agency -	The porters clean the workshops daily.
Winfield & Co. -	See rules and regulations enclosed, and numbered No. 1.

Names.	**26. Is there any co-operative society, or arrangement amongst the workmen for the purchase of food or clothing, and how is the management provided and paid for?**
Adams - - -	No.
Akroyd - -	The following institutions belong to the firm:— 1st. The Haley Hill Clothing Club, founded in 1862, for the purpose of encouraging the workpeople to save for purchasing winter clothing. Deposits of not less than one penny, and not more than sixpence per week, are allowed to be paid in. Considerable success has attended the institution, as in 1862 the depositors numbered 185, and the deposits amounted to 58*l.* 14*s.* 9*d.*; in 1866 there were 580 depositors, and the amount deposited was 418*l.* 8*s.* 2*d.* A similar club exists at Copley. 2nd. The Haley Hill Shed Tea and Coffee Kitchen, where tea and coffee are provided for such of the workpeople as choose to avail themselves of it, at the price of one halfpenny per pint. Nothing is charged for the cost of preparation, and the whole of the profit derived from the sale is devoted to the relief of the workpeople when sick, and to the assistance of a family in case of the death of one of its members. 3rd. The Dining Shed and Cooking Kitchen, at Copley, built for the workpeople, and especially those of them who, coming from a distance, have no time to go home to meals. The dining shed will accommodate about 600 persons. The provisions are one pint of soup, tea, or coffee at three-halfpence. Dinner consists of meat and potatoes at twopence.
Bessbrook Spinning Co.	There are two co-operative societies, each managed by a committee of the work-people themselves, elected by the shareholders, who must be employed in our works.
Bliss - - -	None; except two sets of linen check, clothing, and woollen class, provided by the proprietors for all the women and boys, who pay only half the cost of the same.
Briggs - - -	Yes, under the workmen's management.
Brook & Brothers	Yes; a large co-operative store erected by the firm is managed entirely by the workpeople, dividing profits among themselves of about 400*l.* a year.
Campbell & Co. -	There is a shop for the sale of food and clothing establishment, and carried out on the following principle: We built the shop and shopkeeper's house, on which outlay we charge 6 per cent. per annum. We advanced 150*l.* to lay in stock, on which we charge 5 per cent. Selling prices are fixed so as merely to pay shopkeepers' salaries, fire, gas, and above interest charges. We take stock every half year, and if we find more money made than necessary, we reduce rates. This system has been in work for six years, and has been so successful that they are enabled to sell all necessaries of life at and in some cases under wholesale prices, as the expenses of the shop are all paid by the profits on what may be called outside articles, such as tobacco, sweets, fruit, toys, &c. This success has been attained by a strict adherence to cash payments both in buying and selling, as we knew we would thereby give our people better value for their money, and at the same time encourage a spirit of independence amongst them, which the usual credit system pursued here by the working classes had completely destroyed.
Compstall Mill, &c.	Yes; a very prosperous co-operative society. Particulars on form referred to in Appendix.
Consett Iron Co. -	There is a co-operative society in the district, not confined to these works, though mostly composed of its workmen.
Crossley - -	Many of the workmen belong to co-operative societies, but there is nothing of the kind in connexion with these works.

Names.	
Denaby Pottery -	A co-operative society just formed, capital being subscribed by the workpeople, and the proprietors of the pottery holding half of the shares. Managed by the workmen and kept in premises provided by the firm.
Dowlais Iron Co.	None.
Fox, Head, & Co. -	There is one entitled the Newport Rolling Mills Co-operative Society. It has been established six months, and has made one half-yearly dividend at the rate of 10 per cent. per annum upon purchases by members. It is managed entirely by a committee elected by the workmen. The secretary and shopman only are paid. The rules are nearly the same as those of the Rochdale store, and are duly registered.
Gilford Mills -	There is a co-operative society, managed by a secretary, manager, and assistants, under the immediate control and supervision of the proprietors, for supplying food and clothing to the workpeople.
Greening & Co. -	There are two excellent co-operative stores in Manchester and Salford, and the workpeople are encouraged to join these establishments, which are very flourishing, returning to their members profits of 9 to 10 per cent. upon the amount of purchases.
T. F. & T. M. Hale	The principal number of the workpeople belong to a co-operative society.
Hannington - -	Not needed.
Hare & Co. - -	No such society.
Henderson & Co. -	There is a co-operative society in connexion with the factory, managed altogether by factory workers; it is well managed, furnishes goods at cheap rates, and leaves a profit of 12½ per cent.
H. & A. Holmes -	No; a large body of the working men of the town have formed one for the town at large.
Hooper - -	Do not know of any.
Huntley & Palmers	A small one for butchers' meat.
Laverstoke Mills	No co-operative society at present. The workpeople are at full liberty to form one whenever they think proper.
The London Dress-making Co.	No.
New Eagley Mills	There is no co-operative society; every one takes charge of his own expenditure.
Panmure Works -	There is none directly connected with the works, but since their erection a co-operative association has been organized in the village, which is largely supported by our workpeople, who hold upwards of 250*l.* of the stock. The association has been very successful.
Peek, Frean, & Co.	Young women are twice a year supplied with good materials for dresses at prime cost, for which they pay one-third on receipt of the material, and the remainder by weekly instalments.
Ransome & Sims -	No such arrangement exists.
Saltaire - -	There are two, one for the supply of provisions and groceries, and one for coal; these are managed by a committee of the workpeople, and are very remunerative.
Stafford Rd. Wks.	No.
Stoneywood Works	The workpeople have started a shop on the co-operative principle in this neighbourhood, shares 1*l.* each.
Tailors' Agency -	Not at the present time. A small co-operative society for the purchase of provisions existed for about nine months, but was abandoned.
Winfield & Co. -	No.

Names.	**27. Do the employers contribute in any way?**
Adams - - -	See answer to Question 27.
Akroyd - -	Yes, by subscriptions to the clothing club and the like, and by finding rooms, fires and light.
Bessbrook Spinning Co.	The employers do not participate in the profits of these shops, but they endeavour to give their help and counsel to the managing committee when required.
Bliss - - -	Besides the above, the young females have a clothing club connected with the evening school, to which Messrs. William Bliss and Son contribute one-half the cost of the clothing.
Briggs - - -	No, except providing a building at a low rate of rental.
Brook & Brothers	A special shop and store built for them, for which they are charged a nominal rent.
Campbell & Co. -	Merely by carting the goods from Belfast, a distance of 6 miles.
Compstall Mill, &c.	No.
Consett Iron Co. -	No.
Crossley - -	See answer to No. 26.
Dowlais Iron Co.	No.
Fox, Head, & Co. -	Yes, they hold 15 shares of 1*l.* each to encourage the thing in every way, but have nothing to do with the management.
Gilford Mills -	By acting as treasurers gratis and giving their advice and superintendence.
Greening & Co. -	The writer hereof takes a deep interest in the stores, and is himself a member. It has not been thought advisable to attempt a separate co-operative store for the workpeople. Such a store could not possibly be made so advantageous to the hands as the general co-operative stores already existing.
T. F. & T. M. Hale	Yes, by encouraging sales.
Hannington - -	Not needed.
Hare & Co. - -	No.
Henderson & Co. -	No; except by giving their presence and approval at the annual meeting of the society.
H. & A. Holmes -	No.
Hooper - -	No.
Huntley & Palmers	No.
The London Dressmaking Co.	No.
New Eagley Mills	No.
Panmure Works -	No.
Peek, Frean, & Co.	The boys of the establishment are every Monday morning supplied with a clean jacket, cap, and apron (to be worn by them whilst at work), which are provided, repaired, and washed at the expense of the firm.
Ransome & Sims -	See last question.
Saltaire - -	No.
Stoneywood Works	No.
Winfield & Co. -	No.

	28. Is the system of truck in any form adopted? *a.* **Are any payments made, except in money, to persons employed?**
Adams - - -	No. *a.* No.
Akroyd - -	No. *a.* No.
Bessbrook Spinning Co.	No. *a.* No.
Bliss - - -	No. All payments are in money.

Names.	
Briggs - - -	None whatever. *a.* No.
Brook & Brothers	No. *a.* None.
Campbell & Co. -	No. *a.* No.
Compstall Mill, &c.	No. *a.* No.
Consett Iron Co. -	No. *a.* No, except for houses, coals, and doctor.
Crossley - -	No. *a.* No payments are made except in money.
Denaby Pottery -	No. *a.* No.
Dowlais Iron Co.	No. *a.* No ; all payments are made weekly in coin.
Fox, Head, & Co. -	No. *a.* No.
Gilford Mills -	No. *a.* No.
Greening & Co. -	No. *a.* No.
T. F. & T. M. Hale	Not allowed. *a.* All paid in money.
Hannington - -	*a.* No ; all on the establishment are allowed whatever goods they require of us, for the use of themselves or their families, at "cost price."
Hare & Co. - -	No. *a.* None but money payments.
Henderson & Co. -	No. *a.* No.
H. & A. Holmes -	No. *a.* No.
Hooper - -	In no form whatever. *a.* None whatever, except residence for foreman.
Huntley & Palmers	No.
Laverstoke Mills	No. *a.* All payments to the workpeople are made in cash, fortnightly. The pay-day is in the middle (and not at the end of) the week.
The London Dressmaking Co.	No.
New Eagley Mills	No, nor has it ever been adopted. *a.* Money payments only, and on Friday in every week.
Panmure Works -	No. *a.* No.
Peek, Frean, & Co.	No. *a.* No.
Ransome & Sims -	No. *a.* No.
Saltaire - -	No. *a.* No.
Stafford Rd. Wks.	No. *a.* No.
Stoneywood Works	No. *a.* No.
Winfield & Co. -	No, not in any form. *a.* Payments not otherwise than in cash.

29. Is any provision made by the proprietors, or by the workpeople themselves, for medical attendance in cases of sickness; and are any, and what allowances made to them, or in cases of death for their burial, and from what funds?

Adams - - - Yes. See *Appendix.*

Akroyd - - The workpeople both at Haley Hill and Copley have an association for the relief of sick members, and the payment of funeral expenses in case of the death of a member or his wife. Copies of the rules accompany this notice.

The mode of relief applicable to the Haley Hill Association will be found described in Rules V. and IX. See *Appendix.*

That applicable to Copley in Rule XIV. See *Appendix.*

It may be stated that, some years ago, a medical attendant was provided for the Haley Hill and Copley Works, but this provision was discontinued, as the workpeople preferred subscribing to clubs, and choosing their own medical attendant when they required one. When any of the workpeople are fined for neglect, or otherwise, the amount goes to the sick fund.

Names.	
Bessbrook Spinning Co.	A sick fund is in existence for the above purpose, copy of rules of which we enclose.
Bliss - - -	A sick club for men and boys, also one for women and girls, has always existed in connexion with this factory, to which William Bliss and Son contribute liberally; and they give an additional gratuity for extra medical attendance, and subscribe for four inmates to the Oxford Infirmary, and in case of death and burial 3*l.* is given for men and 30*s.* for women.
Briggs - - -	A medical man is appointed by the proprietors to attend cases of injury from accidents, and the workpeople themselves have established clubs which give an allowance in case of sickness or death.
Brook & Brothers	Almost all the men subscribe 2*d.* per week to a sick club, to which the firm contribute 25*l.* a year; they receive 12*s.* a week in sickness. The firm subscribe 100*l.* a year to a pension fund for old servants. Nearly all the workmen are members of benefit societies. These societies engage a doctor, and give their members 9*s.* a week in sickness. 10*l.* is allowed on the death of a member for funeral and other expenses, and 6*l.* on the death of a member's wife.
Campbell & Co. -	Medical attendance and medicine provided by proprietors. In cases of death proprietors exercise their own discretion.
Compstall Mill, &c.	The proprietors subscribe to Manchester infirmary and Stockport infirmary, and send their people. And have also a resident medical man, who they partially pay for general services, and for particular cases connected with the establishment.
Consett Iron Co. -	An infirmary maintained by company for cases of accident to workpeople. When deaths occur by accident about the works the funeral expenses are paid by the company. Each adult workman pays 4*d.* per fortnight for a doctor, who attends and finds medicine, except in midwifery cases.
Crossley - -	The workpeople have a sick fund and funeral brief, from which allowances are made during sickness of 10*s.* per week to adult males, and 4*s.* per week to adult females; while at death the sum of 10*l.* and 5*l.* respectively is paid for male and female adult members to the nearest surviving relatives. The funds are raised by contributions from the workpeople, donations by the company, and fines for late attendance at work, which are levied as follows:—The principal gates are closed every morning and at each meal time five minutes after the starting of the engines; but in the morning from five minutes past 6 until a quarter past males above 18 years of age are admitted under a fine of one penny, and from a quarter past to half past 6 under a fine of twopence. Females and males under 18 are fined one halfpenny from five minutes past to a quarter past 6 o'clock, and one penny from a quarter past to half past 6, after which time none are admitted.
Denaby Pottery -	A sick and burial society just formed.
Dowlais Iron Co.	A stoppage of 2*d.* in the pound from all wages for a sick fund managed by the workpeople themselves. A stoppage of 2*d.* in the pound to pay all medical expenses for the workpeople, and towards the school expenses, which are supplemented by the Government grants, and by gifts from the Dowlais Iron Company. Copy of sick fund accounts enclosed with these returns.

Names.	
Fox, Head, & Co. -	Two doctors are retained for service of the workmen, and are paid by the men, see rule 31. We formerly had a sick and funeral fund, as well as one to be used for building a workman's institute. These funds, however, were a constant source of dissatisfaction, and we therefore abolished them at the request of the workmen themselves. The provision for savings as set forth in rules 7 and 8 of the co-operative scheme is expected to meet all requirements in this respect. In case of a man being killed on the works, or any similar distressing event, we have usually instituted a subscription for the widow. In one case we raised 30*l.* for her in the works.
Gilford Mills -	A sick fund is established, to which the proprietors contribute 150*l.* per annum, and a furnished hospital and dispensary rent free. The workpeople contribute about 350*l.* annually in the proportion of ½*d.* to every 3*s.* earned. The funds are applied in allowances in cases of sickness; in procuring efficient medical attendance at the hospital, dispensary, and houses of sick persons; in supplying medicines free at the dispensary, which is open 1½ hours daily; in providing nurses for the sick; and in defraying the expenses of burial in cases of death.
Greening & Co. -	Nearly all the hands are members of benefit societies, which are very generally supported by the working population of Lancashire. In case of need I make a rule of advancing sums of money to working shareholders upon the security of their shares.
T. F. & T. M. Hale	A sick club belongs to the manufactory, which also provides for burial.
Hannington - -	All persons permanently employed are paid full wages in sickness as in health. Servants of old standing when incapacitated, are liberally superannuated by the proprietor, and special provision is made for exceptional cases; a large proportion of the men belong to benefit societies for this purpose.
Hare & Co. - -	There is a sick fund under the management of the foreman. The proprietors, however, provide medical aid when needed, and as well as the workpeople subscribe largely to the infirmary, dispensary, and hospital; 1*l.* subscribed by proprietors towards the funeral of a deceased workman, and 4*l.* from the burial fund. A medical man visits works weekly at expense of proprietors.
Henderson & Co. -	An admirable sick club exists in the factory, there are 170 adult members; we believe that there is no club better managed, or affording more pecuniary assistance (for the amount paid) in all England. There is a medical adviser attached to the club. See copy of Rules now sent.
H. & A. Holmes -	The workmen have a sick and burial fund, established and managed by themselves. In case of accident the firm allow any workman his full weekly wages, deducting 10*s.* per week (the amount he would receive from his sick club or benefit society), and, when required, send their own family surgeon to attend such workman. Most of the workmen belong to different benefit societies, as the Odd Fellows, Foresters, &c.
Hooper - -	The work-people have established a sick fund managed entirely by themselves, they also belong to trade societies which further assist them; pensions have in some cases been allowed to men who have grown old in the service of the firm.
Huntley & Palmers	We have a sick club and a club doctor (see Rules enclosed). It is compulsory in every person employed to belong to the

Names.	
Huntley & Palmers —*cont.*	factory sick club unless he gives proof of belonging to some other club or sick benefit society. All fines and gratuities are placed to the credit of the sick club, and at the end of the year the surplus funds are distributed amongst the members pro ratâ. The firm takes the responsibility of a deficiency to meet claims, and gives an annual contribution.
Laverstoke Mills	1. A fund established by the proprietors to which *all* the men and boys contribute for I. Superannuation; II. Accident; III. Burial. 2. *All* the men and boys are expected to become and (with two exceptions) are members of some approved provident society, and (or) invest in the Post Office, or other savings bank. (*See* No. 36.)
The London Dress-making Co.	Medical attendance in case of sickness is provided at the expense of the Company. There is a sick fund from which allowances are made.
New Eagley Mills	Sick funds are raised, and distributed by the workpeople themselves.
Panmure Works -	The principal medical practitioner in the village has an annual subsidy from the firm to attend gratuitously all cases of accident, and the Panmure Works Male and Female Yearly Society (of which we transmit the rules) provides an allowance for the sick and burial expenses. During 1866 this society paid to its sick members 35*l.* 5*s.* 5*d.*, and for burial expenses 9*l.* 10*s.* The total sum collected by weekly subscription amounted to 536*l.* 15*s.* 6*d.*, which was distributed amongst the members in accordance with the rules of the society.
Peek, Frean, & Co.	A sick club, sustained mainly by the workpeople, the firm contributing to its funds, taking an active part in its management, and employing a visitor to see to all cases of sickness and accident, and to afford relief to destitute cases met with in visiting the homes of the boys and girls. Medical attendance is also supplied from the Surrey Dispensary at the cost of the firm. For further particulars see rules.

SICK CLUB.

Men and Boys.

Instituted March 18th, 1860.

I. The Contributors to this Fund shall consist of all Men and Boys employed in the Factory, who shall be divided into five Classes, according to the following scale:—

—	Levy.	Weekly Relief in case of Sickness or Death.	Death Money.
	d.	*s. d.*	£ *s. d.*
1st Class to be comprised of those whose wages are 20*s.* per week and over - -	4	12 0	8 8 0
2nd „ wages are,— 15*s.* & under 20*s.* pr. week	3	9 0	6 6 0
3rd „ 10*s.* „ 15*s.* „	2	6 0	4 4 0
4th „ 7*s.* „ 10*s.* „	1½	4 6	3 3 0
5th „ „ 7*s.* „	1	3 0	2 2 0

Names.

PEEK, FREAN & CO. —*cont.*

WOMEN AND GIRLS.

I. The Contributors to this Fund shall consist of all Women and Girls employed in the Factory, who will be divided into three Classes, according to the following scale:—

—	Levy.	Weekly Relief in cases of Sickness or Accident.	Death Money.
	d.	*s. d.*	*£ s. d.*
1st Class to be comprised of those whose wages are 10*s.* per week and over - -	2	6 0	4 4 0
2nd „ whose wages are 7*s.* and under 10*s.* - - - -	1½	4 6	3 3 0
3rd „ whose wages are under 7*s.*	1	3 0	2 2 0

RANSOME & SIMS - Medical attendance and medicines are provided, for a workman, on his paying one penny per week, for himself and wife twopence per week, and for himself, wife, and children twopence-halfpenny per week. The sum of these weekly contributions for medical attendance usually amounts to from 50*l.* to 60*l.* per annum. For particulars as to accident fund and the various sick funds in operation at the works, see supplement. There are in the works:

Members of the Foresters' society - -	142
„ „ Odd Fellows - - -	93
„ „ other societies - - -	584
	819

all of whom are entitled to medical attendance by virtue of one or other of the above memberships. Paid to workmen in 1866 from the accident fund and the sick relief societies connected with the works, three hundred and seventy-nine pounds twelve shillings and sixpence (379*l.* 12*s.* 6*d.*).

SALTAIRE - - The firm supply medical attendance in all cases of accident, and in case of a person being maimed for life he is pensioner, or such easy employment provided as he may be able to perform. A free dispensary is now about to be constructed, see plan. There is a sick benefit society to which the workpeople subscribe, and the firm supplement the amount raised by adding 20*l.* per annum for each hundred or part of a hundred members on the society's list. There are now 540 members, and it is hoped this number will be materially increased. A burial society of 1,800 members, in case of a death, levy a rate, and allow 5*l.* to the family of deceased.

STAFFORD RD. WKS. A sick club, controlled by a committee elected by the workmen; it was formerly compulsory for every person employed to join the club, but workmen are now allowed to act as they think fit in the matter. Copy of rules enclosed. Majority of the workmen are members.

STONEYWOOD WORKS There are two societies amongst the workers; one for aid in case of sickness, and the supply of medicine; the other for pecuniary assistance in case of extreme illness or death.

TAILORS' AGENCY - The workmen, some few years' ago, established a sick and burial society; but they have amalgamated their society with "The Hearts of Oak," meeting in Blackfriars Road.

WINFIELD & CO. - Yes, by the workpeople themselves, by means of a sick club (that has existed nearly 40 years) which ensures a sum of 6*s.* weekly in sickness to a workman; 8*l.* at the death of a workman, 4*l.* at the death of a workman's wife, and 1*l.* at the death

Names.	
Winfield & Co.—*cont.*	of a workman's child. Average income of the sick club for the last 10 years upwards of 400*l.* per annum. (See Rules and report enclosed; Rules marked No. 2, and Report marked No. 3). The principals and the workpeople subscribe to the Birmingham Dispensary, from which they obtain medical attendance. The above provision may appear very inadequate, but it is right to mention that there are a number of valuable provident, sick, and medical societies in Birmingham, of which the majority of our men, their wives, and children, are members.

30. State the proportion to the average of the locality of—

a. **The Deaths of the workpeople employed.**
b. **Their Marriages.**
c. **Births—Legitimate.**
d. **„ Illegitimate.**

Adams - - -	Not applicable.
Akroyd - -	The returns of the Registrar-General will afford this information.
Bessbrook Spinning Co.	*a.* 19 have occurred during 1866, out of a population of about 2,500. *b.* 26 during 1866 are all we can find by the register, but we believe there were more. *c.* 53. *d.* 3.
Bliss - - -	*a.* Twelve. *b.* 12. *c.* 35. *d.* None to the proprietors' knowledge, the strict rule being that all improper characters are to be discharged for good. An exception to this rule is very rare.
Briggs - - -	Not known.
Brook & Brothers	In 1866 we lost seven workpeople by death (six were married). Our people coming from several townships we cannot state the proportion of deaths and births. Meltham township contains a population of 4,026. For the year 1866:—deaths, 116; births, legitimate, 130; illegitimate, 8.
Campbell & Co. -	No statistics; cannot answer this.
Compstall Mill, &c.	*a, b, c.* Not known. *d.* Not more than three or four annually.
Crossley - -	We have no record.
Denaby Pottery -	*a.* But one death three years ago. *b.* None. *c.* Three. *d.* None.
Dowlais Iron Co.	No accurate information, but the circumstances of the manufacture are known not to shorten life.
Fox, Head, & Co. -	*a.* We have had six deaths among our workmen during the last 2¼ years. *b.* Marriages and births, no statistics.—The average death rate of the town of Middlesborough is 25 to the 1,000 annually.
Gilford Mills -	*a.* 3 per cent. above the average. *b.* Fully equal to average. *c.* 8 per cent. below. *d.* Slightly above average.
Greening & Co -	I cannot give these statistics accurately, but can state positively that the average health of our people is above that of the locality, and the moral condition also.
Hannington - -	*a.* Only six men and two women have died since the year 1858. *b.* 113 are married. *c.* Children living, 306. *d.* None illegitimate.
Hare & Co. - -	*a.* About three annually. *b.* Cannot say. *c.* Cannot say. *d.* Have no remembrance of any.
Henderson & Co. -	No statistics existing. *a.* No statistics existing. *b.* No statistics. *c.* No statistics.
H. & A. Holmes -	No statistics kept.
Hooper - -	Have not an opportunity of knowing.

Names.	
Huntley & Palmers	*a. b. c.* No data. We can state on the authority of our club doctor that the average health of the workpeople is better than the average of the working population of the town.
Laverstoke Mills	*a.* About 6 per 1,000 per annum in the mills; 11 per 1,000 per annum in the parish. *b.* About 2 per cent. in the mills; *c.* No answer. *d.* About 1 per cent. of mill people.
New Eagley Mills	*a. b.* No account kept. *c. d.* Births are about four in a year in a population of more than 2,000.
Panmure Works -	*a.* 16 in all since 1858. *b.* Have averaged 10 annually. *c.* 30 annually. *d.* 12 in all during the last eight years.
Ransome & Sims -	*a.* A record is not kept. *c, d.* Females are not employed.
Saltaire - -	*a.* Many of the workpeople reside elsewhere than at Saltaire. *b.* Take place in other places, and consequently not registered in Saltaire. *c.* 76. *d.* 4 in Saltaire.
Stoneywood Works	We have no reliable statistics to refer to for answer to this question.
Tailors' Agency -	Three in the past year.
Winfield & Co. -	Data insufficient to answer. *a.* Illegitimacy rare.

31. State the average duration of life of the workpeople—

***a.* Adult Males.**

***b.* Adult Females.**

***c.* Children.**

Akroyd - -	The returns of the Registrar-General will afford this information.
Bessbrook Spinning Co.	We have no means of answering this question correctly.
Bliss - - -	Considerably above the average.
	We cannot ascertain the average, but the employment being healthy, as well as the locality, the average duration of life is longer than in most places.
Briggs - - -	Not known.
Brook & Brothers	Cannot reply.
Campbell & Co. -	No statistics; cannot answer this.
Compstall Mill, &c.	*a.* 65. *b.* 60.
Crossley - -	We have no record.
Fox, Head, & Co. -	Have been established too short a time to afford any reliable statistics.
Gilford Mills -	*a.* 51. *b.* 46. *c.* 16.
Greening & Co. -	I am in the same position of inability to answer this question definitely as Question No. 30. The statistics have not been regularly preserved. I can only repeat my general statement that I am confident we average better lives than usual.
T. F. & T. M. Hale	Some have lived to the age of 75 and 80 years. *a.* Say 60. *b.* Not employed. *c.* Objected to.
Hannington - -	Present average age of adult males, including apprentices, 30 years.
Hare & Co. - -	Impossible to say, but we have men still living who have been with us more than 60 years.
Henderson & Co. -	No statistics.
Huntley & Palmers	No data.
Laverstoke Mills	*a.* 60. *b.* None. *c.* None.
New Eagley Mills	No account has been kept. Two workmen died last year, one of whom had worked at this factory 58 years, and the other one about 38 years. Many old people still remain working.

Names.	
Ransome & Sims -	The average duration of life is certainly equal at least to that of the general population. According to the Registrar-General's returns, the deaths in Ipswich are 20 in the 1,000, a very low rate; but a registry is not kept of the ages of workmen at death. See statement in supplement as to length of service.
Saltaire - -	The population of Saltaire amounts to upwards of 3,600. The deaths average 58 per annum, or 1⅛ per cent., including aged, adults, and children.
Stoneywood Works	We have no reliable statistics to refer to for answer to this question.
Winfield & Co. -	Data not conclusive.

32. State if any, and what, provision is made for the education of the workpeople and their children, and from what funds provided.

Adams - - - Evening schools, at employers' expense. See *Appendix*.

Akroyd - - The schools provided by the proprietor of the establishment are:—

1st. The Haley Hill Shed School room, for girls and infants, which is 98 feet long, by 36 feet wide, and 18 feet in height. It is ventilated by four large patent ventilators, and warmed by steam supplied from the works.

2nd. The class room, attached to the Shed School-room, which is 31 feet long by 20 feet wide and 17 feet high with offices and lavatory.

A large play-ground is attached to these schools, measuring about 730 square yards.

3rd. The boys' school, which is 108 feet long by 24 feet wide, and 15 feet high, with a small class room attached. A play-ground, offices, and lavatory are attached.

1st. Girls' and Infants' Schools.

Paid staff of teachers:—
Two head mistresses. Two assistant mistresses.
Seven pupil-teachers. Six monitors.
Number of scholars:—Girls, 300; infants, 268.
Hours of attendance:—One half number of girls, 9 to 12; the other half from 2 to 5. Infants, 9 to 12 and 2 to 4.30.

2nd. Boys' School.

Paid staff of teachers:—
One head master. Two assistant masters.
Four pupil-teachers.
Number of scholars, 326.
Hours of attendance:—One half number of boys, 9 to 12; the other half from 2 to 5.

3rd. Copley schools. All the schools are in one building, which is divided into the following rooms:—

1st. Girls' school and class room, which is 63 feet long, 15 feet wide, and 20 feet high, with a class room, 20 feet by 14 feet, and 20 feet high.

2nd. Boys' school, which is 57 feet long, 21 feet wide, and 20 feet high, with class room, 25 feet long, 15 feet wide, and 20 feet high.

Large play grounds are attached to each school, which are provided with gymnastic apparatus for the recreation of the children.

Names.	
Akroyd—*cont.*	Girls' School. Paid staff of teachers :— One head mistress. Four pupil-teachers. Number of scholars, 206. Boys' School. Paid staff of teachers :— One head master. One assistant master. Three pupil-teachers. Number of scholars, 220. Hours of attendance, same as at the Haley Hill Schools. 4th. The Haley Hill Working Men's College and the Haley Hill Young Women's Institute. In order to afford an opportunity to such of the workpeople who are employed all day in the works to carry on their education, two institutions are provided called respectively the Haley Hill Working Men's College, and the Young Women's Institute, which open at seven p.m., and close at nine p.m., during five nights in each week. The instruction is given by the head and assistant teachers of the day schools, and consists of lessons in reading, writing, arithmetic, algebra, geometry, and book-keeping. These institutions are open to persons from the age of thirteen years upwards without limit. A very efficient laboratory is provided for such of the male students as wish to obtain instruction in chemistry, which instruction is given by professional teachers specially engaged for the purpose. The number attending on each evening is 158. *The Young Women's Institute.*—This institute provides for the instruction of young females above thirteen years of age in all useful branches of learning, with which are combined instruction in knitting, needlework, and other domestic duties. The number attending nightly is one hundred and five. *Funds.*—The proprietor pays all school expenses whatsoever; but a yearly examination of the schools and scholars is made by a Government inspector, and a capitation grant is allowed in accordance with the progress in education manifested by the scholars. This grant, however, is less than one-fourth of the total expenses incurred.
Bessbrook Spinning Co.	Schools have been built by the proprietors and placed under the control of the Irish Board of Education. All children between the ages of 3 and 13 are obliged by the rules of our establishment to attend, and one penny per week for each child is deducted from the weekly wages of the parent and paid to the teacher.
Bliss - - -	An evening school for all the young females in the factory, which Mrs. Bliss and her two daughters personally superintend and give readings; also an evening school for all the boys and youths in the factory, which William Bliss, junior, with the assistance of suitable teachers (appointed and paid by us), superintends. Besides the annexed, we provide two reading and lecture rooms for men and boys, always open, and which are well provided with books, periodicals, and newspapers, which also forms a circulating library for the female hands. We also provide an amusement room for men and boys, with games for instruction and amusement, where coffee is provided at a penny per pint.
Briggs - - -	Schools built by the proprietors have been established, and are supported partly by payment from the workpeople, partly by grant from Government, and partly by subscriptions from the proprietors.

Names.	
Brook & Brothers	Excellent day and infant schools have been built by the Brook family, superintended by the clergyman, head master and mistress, assistants, and infant schoolmistress. The average attendance is 120 boys, 135 girls, and 40 infants. 2*d.* per week is charged for ordinary instruction as required by Government; the firm make up the deficiency in expenses, and keep the buildings in repair.
Campbell & Co. -	Schoolhouse built by proprietors, placed under the Committee of Council on Education. School and master's house free of rent and gas. Donation by proprietors of 15*l.* yearly. Teachers have grants from Government and school fees from scholars.
Compstall Mill,&c.	Day school built and provided by proprietors. A certificated master and mistress paid by pence of children, and capitation grant by Government. 100*l.* a year guaranteed by the proprietors.
Consett Iron Co. -	School-houses are provided by the company, but the schools are kept up without their assistance.
Crossley - -	Children employed under 13 years of age are educated at the expense of the company, and a free reading room and library is provided for the adults, at which 10 daily and 11 weekly newspapers are taken in, besides several monthly serials; and the library consists of 3,279 volumes.
Denaby Pottery -	A reading room on the works supplied with papers at the expense of the firm. The Factory Act regulates the education of children under 13.
Dowlais Iron Co.	Ample provision is made. The Dowlais Iron Company provide school buildings and playgrounds, and are responsible for the management of the whole. The workpeople pay each about ½*d.* in the pound from wages out of the 2*d.* referred to in question 29, towards the annual expenses, and each child pays from 1*d.* to 2*d.* per week on attendance. The Government grant varies in amount according to the result of the annual examination. The statistics of the schools are appended, page 141, and copies of the reports of H. M. Inspectors for five years past.
Fox, Head, & Co. -	A school on the national system is now nearly completed within a quarter of a mile of our works and village. Our firm contributes largely. It is managed by a committee, upon which our principals sit together with others interested. The movement began 12 months since but has been retarded till now on account of the bad state of trade and other causes.
Gilford Mills -	A school-house consisting of three large apartments, for boys girls, and infants, has been erected and very perfectly fitted up and furnished by the proprietors, who also provide fire, light, and daily cleaning, as well as all repairs, annual painting, and limewashing. The proprietors contribute 104*l.* per annum, the pupils, with the exception of the infants, contribute 1*d.* per week, and the National Board of Education, with which the schools are connected, contributes 270*l.* per annum towards the maintenance of a very efficient staff of male and female teachers. The schools are open five hours daily for day scholars, and 7½ hours weekly for evening scholars. The attendance averages 300 in the day, and 150 pupils in the evening school.
Greening & Co. -	A supply of newspapers and journals is made to the hands, and a regular reading room and library will shortly be established.
T. F. & T. M. Hale	Provision is made for the workpeople or their children to join an evening school, to which the proprietors subscribe, and in which one of the partners has, until recently been a teacher.

Names.	
Hannington - -	By encouragement of existing local institutions.
Hare & Co. - -	We subscribe liberally to the excellent schools of Bristol, and stimulate the workman to educate their children in them.
Henderson & Co. -	The following education is provided at the expense of the partners and their wives:— Night schools for all the boys and young men in the factory. Night schools for all the girls and young women in the factory. Special schools for girls and young women to learn to make their own clothes. Sunday schools for all the children of the workers in the factory. Bible instruction classes for the young men and young women in the factory. Choral instruction in sacred music each Sunday given to the young men and women in the factory. Choral instruction in secular music given weekly to the young men and women in the factory; for this last a small payment is made by those attending.
H. & A. Holmes -	Very excellent day and evening schools are established in the immediate locality of the manufactory, of which the senior partner of the firm is a manager and honorary secretary. The payments for children are 2*d.* and 3*d.* per week. In the case of the apprentices the charge of 2*d.* only per week is made for the evening school, Mr. H. M. Holmes paying the difference himself.
Hooper - -	Local schools to which the firm subscribe annually.
Huntley & Palmers	A reading room is provided, furnished with several daily papers and other periodicals, and is open to the factory employées for the payment of 1*d.* per week, and there is a good library free to all the hands; the books are lent and taken home. Mutual associations exist, and are working for intellectual improvement. They have been usually helped more or less by the firm. The subscribers to the reading room have annually or bi-annually had a pleasure party, fête champetre, or conversazione in the town hall or other large room.
Laverstoke Mills	Excellent day school for the children of both sexes, near the establishment, under Government inspection, supported by the proprietor's brother, to which the children contribute a small weekly payment. Have had night school for the adults during the winter months, at which one of the foremen assisted in teaching. All the children of our workmen (being old enough) go to school.
New Eagley Mills	The proprietor has erected a school at the cost of 1,800*l.* or upwards, which is open to all who pay, and free admission is given to those who desire schooling and are unable to pay.
Panmure Works -	The Panmure Works Institute, of which we transmit the plans, and give in a special paper details of the educational and other work carried on in the building, was erected by the firm in 1864–65, at a cost of 1,600*l.*, and provides accommodation for the education and instruction of the workpeople and their children. There are both male and female teachers, and the entire expense of maintaining and carrying on the institute is defrayed by the firm. It amounted last year to 240*l.* There are also several public schools in the village.
Peek, Frean, & Co.	An evening school for youths and young women, who are taught reading, writing, arithmetic, &c., on alternate evenings, wholly at the expense of the firm.
Ransome & Sims -	See supplement in Appendix.

Names.	
Saltaire - -	There are three schools, a boys' school, a girls' school, and an infants' school, respectively under the instruction of one schoolmaster and two schoolmistresses, with assistants. 276 boys, 244 girls, and 135 children attend the schools. The costs of these schools are defrayed by Mr. Salt. They are under Government inspection. A night school is held for the instruction of adults, of whom 60 males and 21 females attend.
Stafford Rd. Wks.	A mechanics' institute established in connexion with the works. Copy of last report and balance sheet enclosed, also catalogue of books. Drawing class, now free to members of the institute, formerly charged 1*s.* 6*d.* per quarter. No provision made for children's education.
Stoneywood Works	The firm has built and pays the expense of large schools for the children during the day, and for the grown-up workers in the evening. They are under Government inspection. For details see our letter at beginning.
Tailors' Agency -	Evening classes in the literary institution have been established for the workmen during a period of 14 years. The subjects taught have been reading, writing, arithmetic, grammar, geography, history, English literature, vocal music, and elocution. Each year, from October to March, lectures or readings are given every Thursday evening on popular subjects in literature, science, or morals. The lecturers engaged are men of the highest ability, and the lectures given by them have proved of the greatest attraction. The evening classes during 10 years have had an average attendance of 22; the highest attendance having been 40, the lowest four. There is a special school attached to the agency for the education of the workmen's children, which, during a period of 10 years has had an average attendance weekly of 31 scholars, boys and girls. The schoolmaster is a trained teacher, and a qualified woman is engaged to teach the girls sewing. There is also a library attached to the literary institution, and about 30 of the workmen are members of a brass band, which meets for practice two evenings in the week. The funds necessary for the support of the institution and schools are raised partly by a commission paid out of the wages of the workpeople of 6*d.* in the pound; the commission money not being sufficient to defray the educational expenses, the deficit is paid by the proprietor. It is not made compulsory on the workmen to send their children to school.
Winfield & Co. -	Education is provided chiefly for the juvenile portion of the workpeople, out of funds supplied for that purpose solely by the proprietors. See short notice of the school; Essays on Educational Subjects, &c., vol. for June, 1857, page 240; Handbook of the Works, pages 8 to 12; and Newspaper Report, referred to in Appendix.

33. State what provision is made for their religious teaching.

Adams - - -	Divine service every morning. Schools and classes every evening, Saturday excepted, under superintendence of chaplain.
Akroyd - -	Religious teaching is given daily (unless objected to by the parents) in all the schools as follows :—
	The Bible is read by the scholars, and examinations are made, and explanations given by the teachers, as the reading proceeds.
	The Church of England Catechism is committed to memory by the children, and explained by the teachers.

Names.	
Akroyd—*cont.*	The children attend on Sundays, schools and places of worship, where such particular religious instruction is given as accords with the opinions of the parents. A clergyman of the Church of England superintends the religious teaching daily. The church of "All Souls," built and endowed by Mr. Akroyd, was consecrated in the year 1859. A large district (inclusive of the works) was assigned to the Church of "All Souls" after its consecration, and a curate has been provided to assist the incumbent in the performance of the duties. At the Copley Works a clergyman is also provided, and the services are similarly conducted in the schools of the establishment there, as at Haley Hill. "St. Stephen's" Church at Copley was consecrated in 1865.
Bessbrook Spinning Co.	In addition to the services connected with the various parish churches and chapels, religious meetings and readings are often held both on the Sabbath and week days, under the direct supervision of the proprietors, who, whilst members of the "Society of Friends, commonly called Quakers," and encouraging perfect freedom of conscience in those around them, endeavour to make these meetings of such a non-sectarian character as shall induce those of other Christian persuasions frequently to take part in them.
Bliss - - -	They are persuaded and encouraged to attend a place of worship on Sunday, and their children, up to 13 years of age, to attend the National and British schools during the week, where they have daily religious instruction, and to Sunday schools on Sunday, to all of which W. Bliss and Son contribute liberally.
Briggs - - -	There is an established Church with Sunday school attached, also three Methodist chapels with Sunday schools connected therewith, besides one Sunday school Unsectarian.
Brook & Brothers	A church containing seats for 730, built by the Brook family at a cost of about 6,000*l.* Also a parsonage house for the clergyman, who receives 300*l.* a year; he is assisted by a curate who receives 100*l.* a year, with a small furnished house. Average attendance at Sunday schools is 280, instructed by 56 teachers, who attend alternate Sundays. We are happy to say that the regularity in attendance and good behaviour is most satisfactory. These schools have always been superintended by the firm.
Campbell & Co. -	School opens each day with half an hour's religious instruction, but non-attendance at this time is not remarked, as we consider this matter is better left in the hands of the parents and clergy.
Compstall Mill, &c.	Sunday schools provided by proprietors, superintended by resident clergyman, and church built, endowed, and under patronage of proprietors. Three-fourths of clergyman's income paid by them.
Crossley - -	None.
Dowlais Iron Co.	They read the Bible in the day schools, and on Sundays attend the schools and places of worship selected by their parents.
Fox, Head, & Co.	A church and rectory are about to be built contiguous to the school, and will be occupied by a clergyman appointed by the Archbishop of York, who at present officiates in a temporary building. A Wesleyan Methodist service is conducted on Sundays in the village; also a flourishing Sunday school to which our firm subscribes. A town missionary visits every house periodically, and to his maintenance we contribute.

Names.	
Gilford Mills -	Places of worship for the four leading denominations have been erected by the joint efforts of the proprietors, their work-people and friends, on ground granted free by the proprietors; and clergy are supported for each by their united contributions. In connexion with each denomination there is a largely attended Sabbath school.
Greening & Co. -	It is not possible for a manufacturer employing alike Catholics, Protestants, and Protestant Dissenters to attempt systematic religious teaching without creating dissension and illwill. We can only use the influence of personal contact with our people.
T. F. & T. M. Hale	Provision is made for religious teaching in the school before named.
Hannington - -	Unnecessary with us, as every facility is at hand.
Hare & Co. - -	We do not like to interfere with their religious teaching or opinions, but take every opportunity of exhorting them to attend Divine worship regularly.
Henderson & Co. -	This question already answered.
Hitchcock & Co. -	A chaplain is employed to conduct morning worship. A room is provided for the holding of Bible classes and devotional meetings, which are held three times a week. A missionary society has been established, which subscribes 80*l.* per annum to the support of missionary operations.
H. & A. Holmes -	A free service and sermon in one of the large school-rooms, conducted by the unbeneficed clergy of the town, with the sanction of the vicar of the parish and the bishop of the diocese.
Hooper - -	Local schools, Church of England, and dissenters.
Huntley & Palmers	None; but a general encouragement is given to religious habits.
Laverstoke Mills	Through the minister who lives close to the establishment; also two churches close to the mills. The people have ample means for religious information.
The London Dressmaking Co.	A chaplain has been appointed and Bible classes are held every Sunday.
New Eagley Mills	Every family takes charge of its own members. The schoolroom is open to the ministers or teachers.
Panmure Works -	A Sunday school was opened last year in the institute, conducted by the manager and overseers of the works, and held in the afternoons. Occasionally clergymen of the village and neighbourhood preach in the hall of the institute on Sunday evening. The average attendance at these meetings has been about 450. There are, however, in the village and immediate vicinity eight Protestant churches of various denominations, and several of the Sunday schools and classes for religious instruction connected with these congregations are numerously attended by the workers and children.
Peek, Frean, & Co.	A Sunday school, with which is connected a library for the use of the scholars at home.
Ransome & Sims -	Parents are left to select for themselves the church or place of worship and the Sunday schools for their children which they may prefer. The Workmen's Hall adjacent to the works is lent for religious services by the firm rent free, with gas supplied, on a week night and on Sundays. The admission is free, and the attendance perfectly optional.
Saltaire - -	A free church has been erected at a cost of 14,000*l.* for the use of the workpeople, of which a sketch is given. The minister is supported by the voluntary contributions of the congregation. The church is conveyed to trustees.

Names.	
Saltaire—*cont.*	The site for a Wesleyan chapel has been given and the building is now being erected (shown on the plan). An established and other churches are in the immediate vicinity of Saltaire.
Stafford Rd. Wks.	None.
Stoneywood Works	We have never attempted to meddle with the religion of the workers. There is ample church accommodation in the neighbourhood, in the Free and Established Churches of Scotland.
Winfield & Co. -	The school is opened and closed with short devotional exercises, and the Bible is the basis of the religious instruction given. It is urged upon the boys the importance of attending Sabbath schools, which many of them do.

34. State what provision is made for their mental or physical recreation.

Adams - - -	Mental: schools. Physical: cricket club and other amusements.
Akroyd - -	Several institutions are provided and maintained by Mr. Akroyd, which are sufficiently and purposely varied in their character, so as to engage the attention and meet the wants of the whole of the different classes of persons employed in the establishment. Amongst these may be enumerated :—

1st. The Haley Hill Literary and Scientific Society. A room for the meetings is provided, which is fitted up with an excellent museum and library.

2nd. The Haley Hill Mutual Improvement Society. The Members meet for the reading, reciting, and discussion of literary subjects.

3rd. The Haley Hill Working Men's Library. This library has been provided by Mr. Akroyd with about 5,000 books, and is open to the workpeople on payment of a subscription of two shillings per annum ; and to the persons in the district of Haley Hill at four shillings per annum.

4th. Haley Hill Working Men's Club. This was commenced in the year 1865, and commodious rooms are provided by Mr. Akroyd, where the members have the opportunity of seeing all the principal daily papers and periodicals. Bagatelle, chess, draughts, and dominoes are provided for their recreation. Smoking is permitted, and everything is done under proper regulations, so as to promote the enjoyment of the members, and make them feel at home. The charge for admission to the club rooms is one halfpenny, the payment of which constitutes a person a member for one day.

Copy of rules sent herewith. See *Appendix.*

5th. The Haley Hill Choral Society. This was instituted by Mr. Akroyd, and supplied by him with an excellent library of music.

6th. The Haley Hill Recreation Club. A large field is provided free to the members, who on payment of a small subscription are allowed the advantage of—

1st. A bowling green.
2nd. A cricket ground.
3rd. Quoits.
4th. Gymnastic apparatus.

In connexion with this club is the Juvenile Recreation Club, for which an adjacent field is provided. The qualification for membership is, that the member shall attend one of the day schools or Sunday schools of the proprietor.

7th. The Haley Hill Horticultural and Floral Society. A large field is allotted by the proprietor, amongst about 190 persons, in small gardens varying from 100 to 240 square yards each. A small rent is charged for each plot, and the

Names.	
Akroyd—*cont.*	amount so received is distributed by the proprietor in prizes (given at an annual flower show held in his grounds), for the purpose of stimulating the gardeners in the cultivation of the plots allotted to them. Similar institutions are in operation at Copley. See *Appendix*, No. 7.
Bessbrook Spinning Co.	We have a free lending library consisting of 800 volumes; a news room, into which papers of all politics are admitted; a Young Men's Mutual Improvement Society, which is in connexion with the Society of Arts, London; an elocution and a singing class, over which our junior partner presides, During the Summer every encouragement is given by the proprietors to every kind of healthy outdoor occupations; with this view they have assisted in the establishment of a Horticultural Society, and offer prizes for proficiency in all classes of flowers, fruit and vegetables, the competitors being confined to those in our employment. Several cricket clubs are in operation during the Summer; also a "hockey club," consisting in all of several hundred members; in both of these our junior partner takes a lead; frequent excursions are given by train to the children, and occasionally to the whole of those employed.
Bliss - - -	Eight half-holidays are given each year. Lectures are given in the reading-room, and penny readings and concerts in the town-hall. Cricket, football, and quoit clubs are established, and all expenses are paid by W. Bliss and Son. Besides the annexed, W. Bliss and Son made an offer to the Lord Lieutenant of the county to find 60 men clothe and equip them at their own expense; but being working men, the rules of the Oxfordshire Rifle Volunteer Corps prevented this being carried out.
Briggs - - -	Cricket club, reading room and occasional lectures, concerts, &c.
Brook & Brothers	A well-read circulating free library. A reading-room for men, which is well attended on winter evenings, while a good cricket ground supplies amusement for summer. We have an excellent brass band of 24 members, and a boys' drum and fife band. These practise in the public "Pleasure Grounds," which have been picturesquely laid out by Mr. Meyer, the celebrated landscape gardener. Cottage gardens are encouraged by prizes given at an annual exhibition. About 400 of our workpeople coming from a distance are amply provided with accommodation for breakfast and dinners in a public dining hall, to which a well-furnished kitchen is attached. This hall is also used for lectures, concerts, public meetings, and social gatherings. The annual meetings of the co-operative, Odd Fellows, and other benefit societies are held here, when the men invite the members of the firm to attend, which greatly encourages a good feeling between them.
Campbell & Co. -	News-room, library, chess and draughts; established by proprietors, but now self-supporting.
Compstall Mill, &c.	Reading-room, class-room, library, athenæum, capable of holding 800 people, provided gratis, with gas and heating, by the proprietors; an excellent band and cricket club formed by them.
Crossley - -	We have frequent lectures in connexion with the library, and "readings" interspersed with singing by our own choral society.
Denaby Pottery -	Masters and managers read alternately to the workpeople after dinner. A field for the children to play in.
Dowlais Iron Co.	Excellent playgrounds for the children. A large reading room and library for the workpeople is provided free, and furnished with books and papers by the Dowlais Iron Company.

Names.	
Fox, Head, & Co.	Having a quantity of unoccupied land, we gave notice some two years since that we should be glad to let it off in garden sites at a small charge to our workmen, and we agreed to ask no rent for the first year in order to repay the cost of getting into order. This notice has been posted up ever since, but owing to the frequency of strikes and consequent want of confidence in the permanence of their positions, none of them availed themselves of our offer up to the time of our starting again in November last. When the spring comes round we intend to try again, believing it will have an excellent effect in keeping the men steady, and that we shall have a better prospect of success under the new circumstances. In the town of Middlesborough within three-quarters of a mile there is an excellent Mechanics Institution, and an Athenæum. Also a public park, which is however not yet completed, a boating club on the Tees, and several cricket clubs, some of them numbering many working men as members.
Gilford Mills -	Mental.—There is a news-room and library, and a public lecture room to which the proprietors contribute, free of rent, light, and fire. A young men's mutual improvement society is in active operation, and lectures and debates delivered regularly on scientific and useful subjects by the members thereof, and by leading and influential public men in the vicinity. Physical.—Cricket, boating, hand and foot ball clubs, and gymnastics fostered and encouraged.
Greening & Co. -	Supplies of journals for reading and a good open space for the boys to play in playtime. I recently made an effort to induce the manufacturers near our works to join me in building a workman's club and institute, but we have not as yet been successful in raising sufficient means.
T. F. & T. M. Hale	Books and suitable publications are given away to all the workpeople.
Hannington - -	On the premises there is a well-stocked library and reading room, containing about 2,000 volumes, the leading daily periodicals are supplied. There are also billiard, bagatelle, and smoking rooms for their private use. The members of the establishment form two complete "efficient" batteries of the 1st Sussex Artillery Volunteers. There is a special room for the cultivation of music, the instruments and teachers are provided free of expense by Mr. Hannington, and at present they form three distinct bands, with a good chorus of singers.
Hare & Co. - -	Mental.—The publications called the "British Workman," "Chambers' Journal," and various religious tracts are regularly supplied to the work-people. Physical.—Holidays at Easter, Whitsuntide, and Christmas, and an annual treat into the country with wives and children, all provided, including dinner, tea, and railway fares at expense of partners, who accompany them.
Henderson & Co. -	All the holidays provided by Act of Parliament, and several more given by the partners, and by cheap trip excursions, in which the families of the partners join, also by lectures and balls.
Hitchcock & Co. -	A library has been provided. A mutual improvement society is conducted. A youths' eclectic association has been established. There are two cricket clubs in connexion with the house.
H. & A. Holmes -	Holiday on Saturday afternoons. The town possessing a recreation ground and an extensive arboretum, the firm have not considered it requisite to make any special arrangements for recreation.

Names.	
Huntley & Palmers	A playground and gymnasium. A general encouragement is given to voluntary and spontaneous lectures, readings, recitations, and musical effort. A dining room is provided, and the means to warm food, tea, &c.
Laverstoke Mills	Papers and periodicals in all the workrooms. A reading-room, a library, of 180 vols., and a lending (subscription) library. Public "Popular" readings, concerts, entertainments, connected with establishment, also cricket club, chess, draughts, dominoes, &c., also good gardens, and allotments of land. The expenses are provided by the proprietors, aided by small payments from the workpeople.
The London Dressmaking Co.	Classes are held for singing and calisthenics.
New Eagley Mills	There is plenty of field room allowed by the proprietor for recreation, and a cricket ground is provided on the premises.
Panmure Works -	In the institute, as detailed in our special paper, there is a reading-room, supplied by the firm with five daily and five weekly newspapers, and draught and bagatelle boards; adjoining is the library, containing 650 volumes, open at stated hours to all the workers. They have the use of a lawn on our premises for a bowling green, and immediately adjoining the works are the links and sands of Carnoustie, to which they have free access, affording them ample convenience for recreation. We refer to our special paper for details regarding the public lectures, musical classes, and industrial social concerts which are held during the winter and spring months. Programmes of the lectures and rules of the debating society are herewith transmitted (numbers 5, 6, and 7).
Peek, Frean, & Co.	Occasional lectures, readings, and recitations; an excursion to the seaside in summer; a tea party at the works in winter; a large and well-furnished gymnasium.
Ransome & Sims -	The athletic exercises, such as boating, cricket, &c., are arranged by the workmen themselves, the firm assisting when pecuniary aid is required. There is a first-rate match boat belonging to a club in the works; and the workmen have also an efficient band of music. The band has been organized by the workmen, and its affairs are conducted by themselves, who are the performers. For particulars as to Mental Improvement Society and the Orwell Works Library, see Supplement.
Saltaire - -	A building is appropriated for the use of a mechanics' institute, containing a library, reading rooms, and chess rooms; lectures and concerts are given in the dining hall (see plan). Two bands, one a full brass band for adults, and a drum and fife band for boys, are connected with the establishment, and each have instructors provided by the firm. A fishing club, a boating club, and a cricket club are well supported; choral and glee societies are very successful. Allotment gardens at a nominal rent are supplied, and annual exhibitions of horticultural and floricultural products take place. (See Appendix.)
Stafford Rd. Wks.	See answer to 32 as to library, reading-room, bagatelle-room, &c.
Stoneywood Works	For answer to this question see the letter in Appendix.
Tailors' Agency -	The literary institution, which is opened in the evening for reading, chess, draughts, &c.
Winfield & Co. -	Concerts, readings, and lectures are frequently given. Occasional out-door gatherings, railway trips, &c. See Newspaper Report of last year's trip.

Names.	**35. Is any arrangement made to promote temperance, and what proportion of the workpeople avail themselves of it?**
Adams - - -	No special arrangements.
Akroyd - -	No special organization is established for this purpose, but it is hoped that the other institutions tend to the establishment of temperate habits among the workpeople.
Bessbrook Spinning Co.	No houses for the sale of intoxicating drinks are allowed on the premises. Ten years ago a temperance society was formed under the encouragement of the proprietor; also a juvenile society of the same description, members of which latter are the only shareholders in one of the co-operative societies. Meetings in connection with these temperance societies are held once a month, and frequent lectures delivered by gentlemen invited from a distance.
Bliss - - -	Water fountains erected on the premises. No intoxicating drinks allowed on the ground; any hand found intoxicated is discharged immediately, and every discouragement given to frequenting public-houses by the providing comfortable homes, with gardens, &c.
Briggs - - -	A temperance society has been established among the youths, but no great proportion of the adults have availed themselves of it.
Brook & Brothers	We use every effort to discourage intemperance, and assist the local societies established for that object. It is a very rare occurrence indeed for any of our workpeople to be convicted before a magistrate for drunkenness, disorderly conduct, or for any cause whatever. The women are particularly moral, and attend to the comfort of their husbands and families.
Campbell & Co. -	No special arrangement, but people of intemperate habits are not retained in the employment.
Compstall Mill,&c.	There is a temperance society, which the proprietors do not notice, as they find education and mental recreation conduce far more to temperance and self-respect.
Crossley - -	Many of the workpeople are members of societies for total abstinence from all intoxicating liquors, but there is no special society for these works.
Dowlais Iron Co.	There are public temperance societies.
Fox, Head, & Co. -	The whole of the 4½ acres of building sites sold by us for cottages was subject to the condition that no public-houses should be erected thereon; hence we have not a single public-house within half a mile. See also Rule 33. A temperance missionary travels the district, and we have encouraged him to visit our workmen specially.
Gilford Mills -	A temperance society and lectures in connexion therewith. 18 per cent. directly connected with the society.
Greening & Co. -	The principals of the establishment have identified themselves with the temperance movement and use all proper means to induce their workpeople to do the same. A considerable number have been prevailed upon to follow the example, but the exact proportion cannot be stated.
T. F. & T. M. Hale	Temperance publications are also given, and have often been the means of encouraging sobriety.
Hannington - -	Every encouragement is given to all our employés to be temperate and steady, we hardly ever have the slightest cause to complain.
Hare & Co. - -	Temperance is specially exhorted, and so long as a workman attends to his work and refrains from drinking to excess, he is never discharged; by judicious precepts and examples for

Names.	
Hare & Co.—*cont.*	the last 20 years the average cases of drunkenness do not exceed two yearly, a very marked improvement having taken place.
Henderson & Co. -	There is no special arrangement for this; but the partners do their utmost to promote temperance.
H. & A. Holmes -	A large proportion of the workpeople belong to the Temperance Association of the town, which is in a very flourishing condition.
Hooper - -	Drinking fountains are provided by the firm; beer is only allowed to be brought on the premises twice daily; morning and afternoon, for a short time.
Huntley & Palmers	None; but a general preference is given to men professing or known to practise total abstinence from or great moderation in the use of intoxicants. No intoxicating drinks, but in exceptional cases, allowed to be brought into the premises.
Laverstoke Mills	No special arrangement made. Temperance is promoted by doing everything practicable to render the people happy at home, and interested in their work. The result is that we have no knowledge of any of the workpeople, men, women, or children, having for many years past lost an hour's work from intemperance.
New Eagley Mills	There is no drink shop on the property of the proprietor, nor within nearly a mile from the premises, and drunkards won't stop there; the hands are temperate, though not under arrangement or organization in regard to abstinence.
Panmure Works -	None; but intemperance is scarcely known amongst our workpeople.
Peek, Frean, & Co.	The British Workman and Band of Hope Review have been supplied gratuitously every month during a period of more than seven years to every one employed. A thoroughly good supply of filtered water is dealt out to the workpeople at their posts; they all avail themselves of it, and a fair proportion are total abstainers.
Ransome & Sims -	Not specifically. The Workmen's Hall is open to them free for eating their dinners, and a large number of the workmen avail themselves of this privilege. The library and reading room in the hall, and the Working Men's College, which has the support of the firm, are excellent counter attractions to the public house and beershop. For particulars respecting Workmen's Halls see Supplement. No workman is admitted or permitted to remain upon the premises in a state of inebriation. Very few instances occur of men having to be removed from the premises from this or any other cause. A workman seen in a state of inebriation, whether on the premises or elsewhere, would be admonished, and if the misconduct was repeated would be warned, and if found incorrigible would be dismissed. From the earliest period in the history of the temperance reformation two partners of the firm were active members of the Total Abstinence Society, and laboured zealously in public and in private to promote temperance in principle and practice, more especially amongst the workmen employed at the works.
Saltaire - -	Tea and coffee are provided on the works for the workpeople and sold at the cost price. A dining hall (see plan) is erected for the free use of the workpeople. No public house or beer shop exists at Saltaire.
Stafford Rd. Wks.	No.
Stoneywood Works	Nothing directly, only the indirect means mentioned in the letter.
Winfield & Co. -	The habits of the workpeople are temperate, whilst many of them, both adults and juveniles, are total abstainers and connected with temperance societies and Bands of Hope.

Names.	**36. Are any plans adopted for taking charge of the savings of the workpeople?**
ADAMS - - -	Penny bank. See *Appendix.*
AKROYD - -	Yes. A Penny Savings Bank. In the year 1852 Mr. Akroyd instituted a savings bank to enable his workpeople to deposit sums from one penny upwards. The system was found to work so well, and to have such a beneficial effect in making the people provident, that he conceived the idea of extending its operations throughout the West Riding of Yorkshire. Having obtained the co-operation of several influential gentlemen, the scheme was started, and an Act of Parliament was obtained, constituting the Yorkshire Penny Savings Bank as it now exists. A branch of this bank is in operation at Haley Hill, and the business is carried on in a building provided by Mr. Akroyd. See *Appendix*, No. 7.
BESSBROOK SPINNING CO.	In addition to the co-operative societies already named, we have a saving fund, and act as bankers, allowing 5 per cent. interest on deposits.
BLISS - - -	The sick and clothing clubs, and any workpeople able and willing to place money in the hands of W. Bliss and Son are allowed 5 per cent. interest for it. A savings bank was established, but it is now done by the Post Office Savings Bank. Upwards of 1,000*l.*, invested in this way, is now in the hands of W. Bliss and Son.
BRIGGS - - -	A penny savings' bank has been established, and the workmen have also been allowed to subscribe for shares in the Company by weekly instalments.
BROOK & BROTHERS	The mill savings' bank at present holds 2,013*l.*, while many subscribe to other banks.
CAMPBELL & Co. -	No.
COMPSTALL MILL, &c.	They deposit them in the savings banks at Stockport and Hyde.
CROSSLEY - -	There is a penny savings bank in connexion with the Halifax Mechanics' Institute, which the workpeople and children largely avail themselves of, and for every 10*l.* and upwards saved the directors give debentures on the company at 5 per cent. interest.
DENABY POTTERY -	Sums of 2*s.* received by the firm bearing interest 5 per cent.
DOWLAIS IRON CO.	A savings bank, established and managed by the Dowlais Iron Company, holding a sum of 13,341*l.* 11*s.* at this date.
FOX, HEAD, & Co. -	Yes. See Rule No. 7, Co-operative Scheme. There is also a Post Office Savings bank and some excellent building societies at Middlesborough, for one of which one of our principals is a trustee.
GILFORD MILLS -	A penny bank and a savings' fund, for which the proprietors are treasurers, and allow interest at the rate of 5 per cent. per annum on deposits.
GREENING & Co. -	Shares in the Company are specially reserved for the workpeople, and they are allowed to subscribe for same out of their weekly wages in sums of 1*s.* and upwards. These shares carry full dividends and the right to attend general meetings of the Company and to vote. See 15*a*.
T. F. & M. HALE	A saving club is connected with the manufactory, which is divided amongst the depositors at the end of the year, with interest.
HANNINGTON -	Most of the men have either investments in Life Assurance Policies, Building societies, or in the Post Office or other Savings banks, and many belong to Local Benefit societies. (See detailed Appendix.)
HARE & Co. -	None further than constantly recommending them to the Government Savings Banks, which are in our opinion the best receptacles for such savings.

Names.	
Henderson & Co. -	Yes. There are savings clubs conducted by the wives of the partners, these are for the women, girls, and boys working in the factory; a large interest is given by the partners' wives; when the money is applied to clothing it is 18 per cent. The men invest their savings chiefly in the Factory Co-operative Association and in savings banks.
Hitchcock & Co. -	A deposit bank. Book enclosed.
H. & A. Holmes -	Two penny banks have been established, of which Mr. H. M. Holmes is the honorary treasurer, and these are found valuable for the small savings of the children of the work-people, while the savings bank is largely availed of for the savings of the adults.
Hooper - -	The pamphlets issued by the post-office savings bank department have been freely distributed.
Huntley & Palmers	None; but the agent of a penny bank attends once a week, on pay nights. Other persons than our hands make use of the occasion.
Laverstoke Mills	Care is taken that all the men and boys, belonging to us, save money, by availing themselves of some of the institutions established for this purpose in the neighbourhood, as Post Office Savings Bank, County Friendly Societies, &c., &c., on one or other of which the proprietors insist. (*See* No. 29.)
New Eagley Mills	They resort to the savings' bank, Post Office bank, and other depositaries, and some of the workpeople build or buy cottages.
Panmure Works -	A penny savings bank and a friendly society are in active operation (*see* enclosures 8 and 12).
Peek, Frean, & Co.	A savings' bank, rules of which accompany this.
Ransome & Sims -	There are several savings banks in the town available for small savings. These banks do each a large business. One of the partners has been for many years an executive trustee to the principal savings bank, to which he continues to devote much personal attention.
Saltaire - -	There is a penny savings' bank established for the workpeople
Stafford Rd. Wks.	No.
Stoneywood Works	There is a penny savings' bank, managed by the worker for savings from wages, which is divided at the end of the yea This is mainly with a view to a reserve fund to meet rent, &c
Tailors' Agency -	Only by means of a building society established by the p-prietor in 1860. The society has five acres of land at Peckh-n, and ten houses are now built. (Vide Pamphlet, p. 17, nd Appendix C.)
Winfield & Co. -	A savings club for the young people merely; the prinpals allowing 5 per cent. interest as an inducement to them te ave. See copy of rules enclosed, No. 9.

37. How long have they been in operation?

Adams - - -	Nine years.
Akroyd - -	Fifteen years.
Bessbrook Spin-ning Co.	About 15 years.
Bliss - - -	Sick and clothing club and deposit account upards of 25 years.
Briggs - - -	Since the formation of the Company.
Brook & Brothers	Eleven years.
Crossley - -	The penny savings bank many years; the debtures by the company about one year.
Denaby Pottery -	Commenced this year.

Names.	
Dowlais Iron Co.	The bank, since 1852.
Fox, Head, & Co. -	Rule No. 7 has only been in operation since the conclusion of the strike, November 20, 1866.
Gilford Mills -	Penny bank, four years; savings' fund, 13 years.
Greening & Co. -	Since the establishment of the new Company at the end of the year 1865.
T. F. & T. M. Hale	Many years.
Hannington - -	For many years.
Hare & Co. - -	See above No. 36.
Henderson & Co. -	Three or four years.
Hitchcock & Co. -	More than 20 years.
H. & A. Holmes -	One penny bank 10 years and the second one seven years; the savings bank was established in 1820.
Laverstoke Mills	For several (8 or 10) years past.
Panmure Works -	The bank about five years, the society about seven years.
Peek, Frean, & Co.	Three and a half years.
Ransome & Sims -	From a very early period in the history of the establishment the firm has taken charge of savings at the request of the persons desiring the firm to take charge of them; but they have rather promoted the investment of such savings through other safe channels. The aggregate amount of sums belonging to the employed at interest in the hands of the firm at the present time is 6,620*l.*
Saltaire - -	Since 1856.
Stoneywood Works	From four to five years.
Winfield & Co. -	Nine years.

38. What is the number of the contributors, and the average amount of their savings?

Adams - - -
Akroyd - -

149. For further information, see *Appendix.*

The number depositing in this branch bank in 1866 was 518, and the amount deposited was 1,689*l.* 18*s.* 8*d.*, the depositors being chiefly the workpeople employed by Mr. Akroyd.

The average savings was 4*l.* 12*s.* 2*d.*

This however does not represent the actual business of the bank. Many persons begin to save during the spring and summer months, and take out their money before the close of the year, for the purchase of winter clothing and for other purposes. 492 depositors withdrew 1,299*l.* 12*s.* 5*d.* in this manner during the year 1866, so that the actual business of the bank was as follows:—

1010 Depositors.

	£	*s.*	*d.*
Amount deposited - - -	2,989	11	1
492 depositors withdrew - - -	1,299	12	5
518 depositors left in - - -	1,689	18	8
Balance in hand from 1865 - -	697	11	9
Total amount invested and held by the bank for 518 depositors, 31st Dec., 1866 - - -	£2,387	10	5

Bessbrook Spinning Co.

The depositors number at present 205; the average savings about 25*l.*

Bliss - - -

This is difficult to ascertain, the depositors showing an unwillingness to let this be known.

Briggs - - -

190; average amount of savings unknown.

Brook & Brothers

About 300*l.* a year saved; 227 members.

Dowlais Iron Co.

See Report appended, Appendix, page 142.

Names.	
Fox, Head, & Co. -	We have as yet no contributors under Rule No. 7, owing to the extreme poverty of the men resulting from the strike. We have received one intimation, however, of an intention to invest therein shortly.
Gilford Mills -	At present 148 contributors; average savings 12*l.* 2*s.*
Greening & Co. -	About 35, who have paid an average of about 2*l.* 12*s.* each in the first year, or 1*s.* per week since the commencement.
T. F. & T. M. Hale	The whole of those employed contribute according to their capability, some of the contributors save 15*l.* to 18*l.*, due to them at the end of the year.
Hannington - -	See questions Nos. 39 and 40.
Hare & Co. - -	Most of our work-people have money in the Savings Bank.
Henderson & Co. -	109 women contributing altogether 160*l.* *a.* 55 girls do. 55*l.* *b.* 20 boys do. 30*l.*
Hitchcock & Co. -	About 50*l.* 5*l.* to 500*l.*; about 50 contributors.
H. & A. Holmes -	Many of the workmen have considerable sums, from 50*l.* to 150*l.*, in the savings bank.
Laverstoke Mills	All our regular hands (males) contribute, but the "amount" of such savings we are not aware of. It has not been hitherto found practicable to extend this plan to females.
New Eagley Mills	We have no knowledge, and don't pry into savings' accounts.
Panmure Works -	Number of depositors in 1866, 261; amount of deposits, 74*l.* 14*s.* 7*d.*; number of separate deposits, 2,214. Deposits vary from 1*d.* to 1*s.* When a depositor has saved 20*s.* it is generally removed to the Government Post Office Savings Bank, and the account begun again. Copy of depositor's book transmitted herewith.
Peek, Frean, & Co.	Twelve. Average amount 10*l.*
Ransome & Sims -	It is believed that a good number of the workmen are depositors in the savings banks in the town; but it might be considered offensively inquisitorial to inquire, and the particulars cannot be ascertained.
Saltaire - -	There are about 400 contributors, who have paid in the sum of 1,261*l.* 16*s.* 9*d.* in the course of the last year.
Stoneywood Works	About 100 contributors, depositing about 100*l.* half-yearly.
Tailors' Agency -	Sixty contributors, and their annual subscription 5*l.* 4*s.*
Winfield & Co. -	Number of boys contributing, 178 annually. Average savings 10*s.* per annum for each boy contributing.

39. Are there any instances of savings invested in life assurance, and to what extent?

Adams - - -	No doubt many, but we cannot give the number.
Akroyd - -	Such Assurances are not usually taken up by the working classes. Their own "Friendly Societies" are merely to provide for an allowance during sickness, and for a small sum for burial expenses in case of the death of a member. Mr. Akroyd some years ago endeavoured to form a Working Men's Assurance Society, but failed in the attempt.
Bessbrook Spinning Co.	We know about 12 who have effected insurance on their lives for 100*l.* each.
Bliss - - -	Yes, several; but cannot tell to what extent.
Briggs - - -	None, that are known of.
Brook & Brothers	A great many workpeople are insured, but we cannot say the number.
Compstall Mill, &c.	Yes.
Crossley - -	We have no record.
Dowlais Iron Co.	A great number, but we have no specific returns.

Names.	
Fox, Head, & Co. -	There are five instances of life insurance among the leading men of our works, varying from 150*l.* to 1,250*l.*, but none among the workmen.
Gilford Mills -	A few instances amongst the higher paid officials; a few are connected with the Post Office savings' bank, and some have savings invested with shopkeepers, &c.
Greening & Co. -	Most of the workpeople (perhaps all of them) are members of sick and burial societies as already stated. I only know of two who are specially insured apart from this.
T. F. & T. M. Hale	This is provided for by the sick and death club before referred to.
Hannington - -	44 of the assistants are assured, covering the sum of 14,175*l.*, irrespective of the workpeople.
Hare & Co. - -	No instances, so far as we know, excepting amongst the clerks, several of whom have insured their lives.
Henderson & Co. -	A few.
Hitchcock & Co. -	A considerable number of the members have insured their lives.
H. & A. Holmes -	Yes, to a limited extent. The short notice for filling up this paper prevented individual inquiry to enable a correct answer to be given to this and the following question.
Laverstoke Mills	Not that we know of, except sums for burial.
New Eagley Mills	Don't know.
Panmure Works -	No.
Peek, Frean, & Co.	Not having inquired, we are unable to say.
Ransome & Sims -	There are 77 assurers *ascertained* to have policies aggregating 12,000*l.*, but it is believed there are other policies on foot. In addition to this, the money assured to workmen in case of death (the members of the various benefit societies) will aggregate at least 6,000*l.*, or say in all, so far as ascertained, 18,000*l.*
Saltaire - -	Not known.
Stoneywood Works	None that we are aware of.
Winfield & Co. -	Yes; but have no means of saying precisely to what extent.

40. Have any, and how many, of the workpeople, by means of their savings, become possessed of houses?

Adams - - - See above.

Akroyd - - Akroydon Building Association.

In order to afford an inducement to his workpeople to invest their savings in house property, Mr. Akroyd set apart, in 1860, a large plot of ground, consisting of 13½ acres, which he divided into building lots, on a uniform plan, prepared for him by an architect. A person desiring to build must conform, in regard to the exterior, to the plan drawn by the architect. This is done so as to procure one harmonious style of building throughout the whole of the intended town. Accompanying this notice is a view of the town as it will be when completed. The ground for the large square in the centre and the streets will be given by Mr. Akroyd when the buildings are finished, but a charge is made for the ground upon which a house is built. A person intending to build is required to pay a subscription of 15*s.*, which constitutes him a member, and, if he desires, the house is commenced immediately. The payment of 15*s.* per month goes on during the time the house is build-

Names.	
Akroyd—*cont.*	ing, and by the time it is finished the member of the society will have paid about 10*l.* towards its erection. He has then the option of either paying at once the whole cost of the house, or in case he is not provided with funds, the building is mortgaged to the Halifax Permanent Benefit Building Society, Mr. Akroyd becoming security to the Halifax Building Society for the original deposit money, along with the owner of the house. The mortgage is gradually paid off by monthly instalments, which are in proportion to the value of the house, and at the end of about 12 years the house then becomes the independent property of the member. The society commenced in 1860, and there are 38 houses now taken up. Another block of eight houses is now in course of erection. *A copy of the Rules is forwarded herewith, together with plates, showing the character of the houses built, and* TO BE *built.* See *Appendix.*
Bessbrook Spinning Co.	The houses are all the proprietors'. Our arrangements do not admit of obtaining land for this purpose.
Bliss - - -	Yes, several.
Briggs - - -	Nine workmen have built, and are building thirteen cottages.
Brook & Brothers	Almost all rent cottages and gardens, good cottages being provided. This is not a popular investment.
Compstall Mill, &c.	There are upwards of 40 houses in possession of the people by means of their savings.
Crossley - -	We have no record, but a great many of the workpeople have become possessed of the houses in which they live.
Dowlais Iron Co.	A very great number. This is encouraged by the Dowlais Iron Company by the granting of leases on long terms.
Fox, Head, & Co. -	Since the great strike none of our men have possessed a house; before the same there were a few who had houses; indeed, one or two had several. These latter men were the leading men in keeping up the strike.
Gilford Mills -	Seven have become possessed of 87 houses, besides others who own shops, land, and farming stock comprising 50 horses, 66 cows, 150 pigs, and a great many poultry. Several of our officials have become mill owners and partners in mercantile establishments by means of their savings.
Greening & Co. -	Not to my knowledge.
T. F. & T. M. Hale	Several at different periods, in a few cases by means of building societies.
Hannington -	17 possess houses, 40 hold unbought shares in building societies, 75 have investments in funds, shares, or savings banks.
Hare & Co. - -	Only a few of them, most preferring renting their houses.
Henderson & Co. -	There are a few; but the workmen greatly prefer investing their savings in Co-operative Societies or in Savings Banks. Many of the workmen are rich enough to purchase houses if they choose.
Hitchcock & Co. -	There are instances of members having invested their savings in house property; but the assistants for the most part husband their savings to enable them to go into business, and there is seldom a year in which some of them do not embark on their own account. A considerable portion of the wholesale trade of the house is with old assistants.
H. & A. Holmes -	We believe from 15 to 20.
Hooper - -	Some few; it is more usual with them to hire a house and make a profit by letting off a portion; in this way they secure a vote for members of parliament, but become liable to serve on juries, &c.
Huntley & Palmers	Several.

Names.	
Laverstoke Mills	Only one that we are aware of has invested his money in houses, but this is not a usual way in which the savings of our workpeople are disposed of.
New Eagley Mills	Several, but we don't know how many.
Panmure Works	One.
Ransome & Sims	In so far as the facts can be ascertained, there are 48 owners of houses, 34 owners of plots of freehold land, and 51 subscribers to land and building societies.
Saltaire	Several of the workpeople possess houses of their own; but all the houses at Saltaire are the property of Mr. Salt. Many invest in various building societies, gas companies, and other lucrative undertakings.
Stoneywood Works	Several. Others manage in their leisure time small bits of land, cattle, &c.
Tailors' Agency	Ten.
Winfield & Co.	We know of some twenty persons; but many workpeople do not like their employers to know what they possess.

41. Have they joined any Trades' Union, or formed any such union among themselves?

Adams	No.
Akroyd	No.
Bessbrook Spinning Co.	Some of our workpeople have done so.
Bliss	Not one.
Briggs	At the time the Company was formed nearly all the workmen were members of a trades union, but large numbers have since seceded therefrom.
Brook & Brothers	No. It has always been a pleasure to us to find our workpeople averse to trade unions, which we attribute to the confidence they repose in us.
Campbell & Co.	No.
Compstall Mill, &c.	They have joined trades' unions.
Consett Iron Co.	Yes.
Crossley	The founders of this company have discouraged trades unions (and, so far as they know, very few of their workpeople have to do with them), but have uniformly endeavoured, by promoting the interests of their workpeople and giving them substantial justice, to maintain a good understanding, which they have been enabled to do, and especially so since this company was formed.
Denaby Pottery	Some are connected with the potters' union.
Dowlais Iron Co.	No.
Fox, Head, & Co.	From the time of commencing to roll, on October 13, 1864, to the end of the strike, November 20, 1866, the whole of our skilled workmen were members of the Ironworkers' Union, and would not suffer a non-union man to work on the place.
Gilford Mills	No.
Greening & Co.	There is a trades' union of smiths and another of wireworkers, and perhaps one-half of the hands belong to one or other of these. We never ask the question directly, "Do you belong to a trades' union?"
T. F. & T. M. Hale	They have the club belonging to the mannfactory before referred to.
Hannington	No.
Hare & Co.	No.

Names.	
Henderson & Co. -	No. The men are proud of their joint action with their masters, which has so long preserved peace in the trade. The firm of Henderson & Co. in the person of their partner, Mr. William Henderson, claims to have led the way in a distinct system for the prevention of strikes; previous to 1839 the carpet trade was not a year without strikes in it. Since that time, solely owing to the proceedings of the Association of Masters (of which Mr. William Henderson has been president for 20 years) there has been no strike in the trade; the Association comprises about 25 factories, and is an example to the rest of the kingdom for the means by which through its proceedings harmony and peace are preserved throughout the whole trade.
H. & A. Holmes -	A trades union or society of the coach-making trade has been in existence about 45 years, to which a majority of the workmen belong, but it is not compulsory for them to join. The union was originally formed for the relief of unemployed members of the trade.
Hooper - -	Yes; they have full liberty to be members or not, as they please.
Huntley & Palmers	A few fitters only, but none of the ordinary men.
Laverstoke Mills	No.
New Eagley Mills	If they belong to unions, they don't speak of it.
Panmure Works -	No.
Peek, Frean, & Co.	No.
Ransome & Sims -	A few of the men, it is believed, are members of trades unions; but they are not anxious to publish the fact, and it is deemed the better course not to disturb them by inquiry.
Saltaire - -	Very limited numbers in one or two departments have joined clubs, not known as trade unions.
Stafford Rd. Wks.	It is supposed that most of the workmen belong to trades' unions.
Stoneywood Works	No.
Tailors' Agency -	Yes. The workmen joined the South London Branch of the Amalgamated Tailors' Association.
Winfield & Co. -	No.

42. Have such unions had any, and what influence upon their hours, or modes of labour, or their rate of wages?

Adams - - -	No.
Akroyd - -	No.
Bessbrook Spinning Co.	Not that we are aware of.
Bliss - - -	None whatever.
Briggs - - -	The trades' union has tended to shorten the hours of labour and to advance the rate of wages generally in the district,
Brook & Brothers	None.
Compstall Mill, &c.	Have had no influence on hours of labour, and little on wages.
Consett Iron Co. -	They have led to many strikes.
Crossley - -	See answer to No. 41.
Denaby Pottery -	Have had the effect of raising wages.
Dowlais Iron Co.	None.

Names.	
Fox, Head, & Co. -	They prevented any change whatever, except for the immediate and obvious gain of the men. They forced every manufacturer to pay the maximum wages and receive the minimum amount of labour. Two puddling machines and engine which we put up two years since have remained hitherto almost untried on account of the (supposed) determination of the workmen not to encourage anything which might in their view tend to supersede their labour. We intend to set them to work shortly, and we hope with a better prospect of success.
Gilford Mills -	None.
Greening & Co. -	The wages paid by us have always been higher than in London, Birmingham, or Leeds. There has recently been an effort to bring up these places nearer to our standard.
Hare & Co. - -	No influence.
Henderson & Co. -	No.
H. & A. Holmes -	None in this establishment.
Hooper - -	The hours of labour have been reduced; they have a tendency to drive away a certain amount of business, as the prices paid for some work do not allow a profit on it.
Laverstoke Mills	No.
New Eagley Mills	Factory labour is regulated by law, and no interference has occurred on the part of unions.
Panmure Works -	None.
Peek, Frean, & Co.	No.
Ransome & Sims -	No trades union has ever had any effect in fixing or changing the hours of work, modes of labour, or the rates of wages. The firm is accustomed to raise the wages of men individually as their value may appear, and in the case of a general advance in the rate of wages, to anticipate the request of the men. No advance of wages has ever been conceded to attempted coercion.
Saltaire - -	Not upon the hours and modes of labour, and very little as regards wages.
Stafford Rd. Wks.	The hours of labour and rates of wages are fixed without any reference to trades unions.
Tailors' Agency -	Yes, in May last, when the wages of the workmen were raised from 5*s.* to 6*s.* per day.
Winfield & Co. -	No.

43. Have there been any strikes among the work-people?

Adams - - -	No.
Bessbrook Spinning Co.	None.
Bliss - - -	None at all, master and servants having always worked together as one family for the good of all.
Briggs - - -	None since the establishment of the system under which the Collieries are now working, although strikes were very frequent previously.
Brook & Brothers	Never.
Campbell & Co. -	No.
Compstall Mill, &c.	Yes.
Consett Iron Co. -	Yes.
Crossley - -	No.
Denaby Pottery -	No.
Dowlais Iron Co.	Not for 13 years.
Fox, Head, & Co. -	Yes, several.
Gilford Mills -	No.
Greening & Co. -	Never.

Names.	
T. F. & T. M. Hale	No.
Hannington - -	No.
Hare & Co. - -	None.
Henderson & Co. -	None since 1835 in this factory.
H. & A. Holmes -	No.
Hooper - -	Yes; partial.
Huntley & Palmers	No.
Laverstoke Mills	No.
New Eagley Mills	One only, and it was 37 years ago.
Panmure Works -	On one occasion we had 60 to 70 of the females in one department, who without previous warning refused to work unless their wages were advanced.
Peek, Frean, & Co.	Never.
Ransome & Sims -	Twenty years ago there was an instance of dissatisfaction on the part of a few men who had been recently engaged, but not such as to cause the stoppage of the works. The dissatisfaction was manifested by the strikers in the smiths' shop, who are *not* generally the equals in skill and intelligence with those entitled to be classed as skilled workmen.
Saltaire - -	No.
Stoneywood Works	Not in present managing partner's recollection.
Tailors' Agency -	No.
Winfield & Co. -	None whatever.

44. State—

a. **At what period.**
b. **Of what duration.**
c. **And the alleged causes.**

Adams - - -	Nil.
Akroyd - -	No.
Bliss - - -	*a.* Never. *b.* None. *c.* None. N.B. In some instances three generations of one family are working at the same time in the factory, some above 60 years, and when disabled or past work are liberally pensioned for life by W. Bliss and Son.
Compstall Mill, &c.	March 1861. *a.* Six weeks. *b.* When trade was good in 1860 ten per cent. was added, and when it became bad in March 1861 it was taken off, which caused the strike.
Consett Iron Co. -	*a.* One week in 1864, two weeks in 1865, ten weeks in 1866, and 13 weeks in 1866. *b, c.* Twice to obtain an advance, and twice to resist a reduction in wages.
Crossley - -	See answer to No. 41.
Dowlais Iron Co.	Summer of 1853. *a.* Six weeks. *b.* Wages. This strike included the colliers only.
Fox, Head, & Co. -	From 21 October to 31 October 1864 = 10 days; this was to obtain the same wages for forge rolling (notwithstanding an improvement in the machinery by which the make was nearly doubled) that was paid in other works which had not the said improvement. The extra cost of the improved machinery to us was about 1,000*l.*, for which they wished to credit us nothing. Part of this 10 days was, however, the result of a breakage. 11 March to 30 March 1865 = 19 days. This was to resist the notice of 10 per cent. reduction which had been issued by the Iron Manufacturers' Association, of which we were then members. The great fall in prices had necessitated this. 14 July to 22 August 1866 = 39 days.

Names.	
Fox, Head, & Co.—*cont.*	This was to resist a second notice of reduction on account of the still greater depression of trade and prices.
	8 September to 20 November 1866 = 73 days.
	This was a continuance of the last strike, a three weeks' interval having intervened on a temporary arrangement which could not be prolonged indefinitely.
Greening & Co. -	See last reply.
Hare & Co. - -	None.
Henderson & Co. -	*a.* In 1835. *b.* Only 24 hours. *c.* A false statement brought by a workman from a distant town, which deceived the workers.
Hooper - -	*a.* 1815. *c.* The introduction of finished and unfinished work from the provinces.
Laverstoke Mills	None.
New Eagley Mills	*a.* 1830. *b.* Two months. *c.* Partly wages and in part an attempt at interference with authority.
Panmure Works -	*a.* April 1866. *b.* One day. *c.* Their overseer had left the previous week for another situation as manager of a new factory in a neighbouring town, and had held out the promise of higher wages to such as would leave our employment. Only three left.
Peek, Frean, & Co.	See 43.
Ransome & Sims -	*a.* In 1847. *b.* A few men remained out for two or three days. *c.* That they had not London wages.
Saltaire - -	At no period. *a.* None. *b.* None.
Winfield & Co. -	No period.

45. By what means, and on what conditions, were they terminated?

Adams - - -	None.
Bliss - - -	Never begun.
Compstall Mill, &c.	The proprietors waited until the workpeople saw fit to resume work at the reduction, which they did without remark.
Consett Iron Co. -	By complying with the masters' terms.
Crossley - -	See answer to No. 41.
Dowlais Iron Co.	By the men giving way.
Fox, Head, & Co. -	In all cases the men eventually came in to our terms. The termination of our last strike was doubtless facilitated by the publication of our Co-operative Scheme. Since our recommencement we have, we think, observed many symptoms of increased willingness, and have had less difficulty in adjusting wages.
	The effect of the Union was that every man presumed on its support in any dispute with the management in which he chose to engage. He always thought himself in the right, and the greater his ignorance the more confidence he had. The Union invariably backed him up (see case of Lolly v. Blewitt, in Appendix), not because they endorsed his views, but because his subscription to their funds entitled him to their support, and it was good policy to give it. This influence of the Union kept the men always on the alert to make a "mountain of every mole-hill," and made it impossible to manage the work except in the exact groove in which the men had been accustomed to run. We, therefore, determined henceforth to exclude all Union men, and as a compensation for this "sine quâ non," we gave notice of withdrawal from the Masters' Association. We have had none of these troubles since. The men now start work on the Monday morning; before, the Union would not permit an earlier start than Monday night. The whole day was usually devoted to Union meetings and in the public-houses.

Names.	
Fox, Head, & Co.—*cont.*	Owing to co-operation our plate mills were started at the revised prices before any others in the district. Almost all our old hands have returned on the new terms, against the will of the Union leaders. All have signed the rules.
Greening & Co. -	They have always been avoided by mutual forbearance and conciliation.
Hare & Co. - -	Nil.
Hooper - -	Other men were obtained to carry on the work with those who did not join the strike.
New Eagley Mills	Settled by knobsticks on masters' own terms and by individuals, and not union interference.
Panmure Works -	The firm agreed to advance the wages of this department 10 per cent.
Peek, Frean, & Co.	See 43.
Ransome & Sims -	The men were left to take their own course, and returned to work upon the same terms as those with which they had professed themselves dissatisfied.
Saltaire - -	None.

46. Have any Trade Unions interfered with the management of the establishment? And if so, give all particulars.

Adams - - -	Never.
Akroyd - -	No.
Bessbrook Spinning Co.	Not in any way.
Bliss - - -	None whatever.
Briggs - - -	The trade union has frequently attempted o upset the co-operation system of working, and to influence the workmen against it, but has been unsuccessful in such attempts.
Brook & Brothers	No.
Campbell & Co. -	No.
Compstall Mill, &c.	They induced the workpeople to strike to resist the reduction, and also in arranging the prices for different kinds of work.
Consett Iron Co. -	They have tried to.
Crossley - -	No.
Dowlais Iron Co.	None.
Fox, Head, & Co. -	Yes, continually. See above. Also we enclose statement by David Jones, one of our workmen. Also copy of letter from ourselves to editor of the "Newcastle Chronicle." Also copy of the case of Parkinson v. ourselves, brought nominally by a puddler, but really by the Union.
Gilford Mills -	No.
Greening & Co. -	The trade unions have never had occasion or excuse to interfere with our management.
T. F. & T. M. Hale	Not any.
Hannington -	No.
Hare & Co. - -	No.
Henderson & Co. -	No.
H. & A. Holmes -	An attempt was made about 30 years ago by the workmen belonging to the union to limit the number of apprentices employed, but it was immediately given up on the firm explaining the necessity they had for increasing the number of artizans in the trade, and their desire to promote the happiness and prosperity of their workpeople ; this was fully admitted, and the best understanding has since existed.
Hooper - -	Yes, last year in reducing the hours of labour.
Huntley & Palmers	No.
Laverstoke Mills	No.

Names.	
New Eagley Mills	No interference of unions ever heard of since the strike referred to.
Panmure Works -	No.
Peek, Frean, & Co.	No.
Ransome & Sims -	For answers, see *Supplement*.
Saltaire - -	No.
Stoneywood Works	No.
Winfield & Co. -	Never, in any instance.

47. Has the establishment given rise to any hostile combinations among the manufacturers or workpeople of the locality?

Adams - - -	Never.
Bessbrook Spinning Co.	No. Quite the reverse.
Bliss - - -	None; on the contrary, has always been on the most friendly terms with other manufacturers and their workpeople at a distance, and this factory is the only one in the locality, and has therefore many disadvantages to contend with, being a great distance from skilled labour and from any engineering works.
Briggs - - -	It has been regarded with jealousy by other employers and by workmen employed at other collieries, but such jealousy is now dying out.
Brook & Brothers	Never.
Campbell & Co. -	No.
Compstall Mill, &c.	No.
Crossley - -	No.
Dowlais Iron Co.	No.
Fox, Head, & Co. -	No; both masters and men had their combination before we commenced.
Gilford Mills -	No.
Greening & Co. -	No.
T. F. & T. M. Hale	Not in one case.
Hannington - -	No.
Hare & Co. - -	No.
Henderson & Co. -	No, quite the reverse.
H. & A. Holmes -	No.
Hooper - -	No.
Huntley & Palmers	No.
Laverstoke Mills	No.
New Eagley Mills	Not known of.
Panmure Works -	No.
Peek, Frean, & Co.	No.
Ransome & Sims -	None whatever.
Saltaire - -	No.
Stoneywood Works	No.
Winfield & Co. -	It has not.

48. Has it had any, and what, effect upon the poor's rate of the parish?

Adams - - -	No.
Bessbrook Spinning Co.	The first three years after this concern started the poor-rates were as follows:—1847, 10*d.*; 1848, 1*s.* 4*d.*; 1849, 2*s.* 4*d.* in the pound; it now stand at 10*d.*

Names.	
Bessbrook Spinning Co.—*cont.*	We may here add that until within the last few years the poor only were maintained by the poor-rate, whereas the present rate has also to bear the expense of dispensaries, registrar's fees, out-door relief, coffins, &c.
Bliss - - -	No hand working in this factory has ever been allowed to become an inmate of the workhouse, and when laid aside by illness every reasonable attention and kindness is shown them. W. Bliss and Son are the largest contributors to the poor rate.
Briggs - - -	The large proportion of rates paid by the Company has contributed to reduce the general sum paid by other inhabitants of the parish.
Campbell & Co. -	No.
Compstall Mill, &c.	None.
Crossley - -	The establishment having given constant employment to so many workpeople must have made this rate less than it otherwise would have been.
Dowlais Iron Co.	Yes. The sick fund lowers the poor's rate very considerably.
Fox, Head, & Co. -	The effect of the establishment of these works, by contributing both rates and employment, would, in average times, be to diminish poor rates; owing, however, to the recent disastrous strikes they have considerably increased.
Gilford Mills -	Reduced it by one-half.
Greening & Co. -	The parish is so large that it would be almost impossible for a single establishment to sensibly affect the rates. I can only say that I know of no case in which one of our workpeople has become chargeable upon the poor's rates.
Hannington - -	64 of the assistants are assessed to the poor's rates at the annual value of 1,384*l.*
Hare & Co. - -	Nil.
Henderson & Co. -	No.
H. & A. Holmes -	A beneficial one, by helping to reduce the rates. N.B.—See supplemental memoranda, rules, and reports filed herewith.
Hooper - -	None that we know of.
Huntley & Palmers	We think not, but the question has never been raised.
Laverstoke Mills	Yes. Poor's rate remarkably low, viz., average 1*s.* 8*d.*
New Eagley Mills	None. No workpeople here have had any support from the parish as long as they remained on the spot.
Panmure Works -	The poor's rate in 1858 was 11*d.* per 1*l.* sterling, and in 1866, 1*s.*
Peek, Frean, & Co.	A favourable one.
Ransome & Sims -	Habits of sobriety and industry are indispensable qualifications for employment at the works. The sober or industrious class is not that which creates or increases pauperism. The large amount paid in weekly wages and other local disbursements by the firm are for the greater part circulated in the town, and may be supposed to have a favourable influence upon trade generally as to increase the ability of those who have to pay the poor's rate to do so.
Saltaire - -	Saltaire contributes 606*l.* 2*s.* 3*d.* to the poor rate of Shipley, and contains two paupers who receive about 15*l.* per annum in return. The latter fact was not known until the necessary inquiry for this return was made, and in future this assistance will be dispensed with.
Stoneywood Works	We have no statistics at hand for reply to this. The excessive rate of rent caused by the demands of industry have driven away all poor people.

Names.	**62. Have you any other information to offer on this subject, or in regard specially to your establishment.**
HANNINGTON - -	We have replied to your questions, as far as they apply to a private establishment, and have sent a detailed appendix, containing full particulars, for perusal.
HARE & Co. - -	Perhaps we might be permitted to say that we think it will be more satisfactory to the Commissioners and to the International Jury if we point to what others say of our establishment instead of recommending ourselves; and, therefore, it is that we append the public prints mentioned in our answer to Question 15*a*. We might further add that ours is a sort of patriarchal firm established by John Hare in 1782, succeeded to by his two sons in 1826, by his grandsons in 1840, and continued with them now by his great grandsons in 1867, and from the commencement of the firm to the present time the prosperity and comfort of the work-people have been specially cared for by the partners. One workman has been with us since 1798. One „ „ „ „ 1806. One „ „ „ „ 1807. Six „ „ from 1808 to 1810. Eleven „ „ from 1810 to 1820. Twenty-one „ from 1820 to 1840. And when they have ceased being useful we admit them to a pension list varying according to their special cases, clerks getting 50*l.* a year and their widows 25*l.*; we have several instances of grandfathers, sons, and grandsons still in the employ, whilst the females of the family are many of them employed at the flax mills as spinners. We find that by taking an interest in every person employed, caring for them when sick, using our influence to secure education for their children in the excellent endowed schools of Bristol, where they are not only educated but clothed and maintained, we attach them to us; and by paying each liberally according to his value, and their industry stimulated by payment by piece work where practicable, we never have any disagreements or strikes or any unreasonable demands; and should we be so fortunate as to receive at the hands of the International Jury one of the rewards offered, we shall expend the amount entirely on the workpeople and consider the best means whereby we can with that sum promote their welfare.
HOOPER - -	Rules and reports, and statistics accompany this paper. The stipendiary local magistrate would only know what he might be told by us of these matters. The local county magistrates are traders as ourselves, and we do not care to lay ourselves under an obligation to them. The local clergy would only know what they might be told by us of these matters. Evidence of the truth of the statements made is furnished by a variety of accompanying documents. 3 reports referred to in Appendix.
PEEK, FREAN, & Co.	We refer to our letter bearing date November 29th, in which are mentioned, weekly investigations of irregularities, promotion of deserving, non-absenteeism, very rare occurrences of drunkenness.

Copies of the Signatures of Magistrates and other persons who certify that they are well informed of the management of the establishment against which their names stand, and that they believe the foregoing statements to be true.

Names.	
Adams - - -	F. L. Thackeray, Mayor of Nottingham.
	Wm. Windley, J.P.
	Francis Morse, M.A., Vicar of Nottingham, and Rural Dean.
Akroyd - -	Charles Musgrave, D.D., Vicar of Halifax and Archdeacon of Craven.
	John Waterhouse, J. P. for the West Riding of Yorkshire.
Bessbrook Spinning Co.	Clermont.
	James L. McCance, J.P. and Stipendiary Magistrate at Newry.
	Daniel Bagot, Dean of Dromore, and Vicar General of Newry.
Bliss - - -	John Farwell, Mayor of Chipping Norton.
	F. Harris, M.A., Vicar of Chipping Norton.
	A. L. Rawlinson, Ex-Mayor and Magistrate of the Borough of Chipping Norton.
Briggs - - -	Edward Tew, Magistrate for West Yorkshire.
	Joseph A. Armitage, M.A., Incumbent of Whitwood.
	Henry Fawcett, M.P. for Brighton.
Brook & Brothers	Not signed.
Campbell & Co. -	T. Bushell, J.P. for County Antrim.
	George C. Smythe, Recorder of Carnmoney.
CompstallMill,&c.	William C. Vaudrey, J.P.
	John Wood, J.P.
Consett Iron Co. -	Not signed.
Crossley - -	Thomas Shaw, Mayor of Halifax.
	George Whiteley, J.P.
Denaby Pottery -	Henry Ellershaw, Incumbent of the parish of Mexborough, in which Denaby is situated.
	Henry Otter, J.P., Swinton.
Dowlais Iron Co.	H. A. Bruce, M.P., J.P. County of Glamorgan.
	R. O. Jones, Chairman of Quurter Sessions for the County of Glamorgan.
Fox, Head, & Co. -	John Richardson, J.P., Borough of Middlesborough.
	John K. Bealey, Incumbent of St. Hilda's, Middlesborough.
Gilford Mills -	Jonathan Harding, Minister of Church of England, Gilford, County Down.
	Edward Coey, J.P. for County Antrim.
	W. Straker Darkin, Sub-Inspector of Factories.
Greening & Co. -	W. Romaine Callmoross, J.P.
	J. W. O. Mather, J.P.
T. F. & T. M. Hale	H. C. Brice, Rector of St. Peter's, Bristol.
	E. S. Robinson, Magistrate, Bristol.
Hannington -	H. M. Wagner, Vicar of Brighton.
	W. H. Hallett, Mayor of Brighton.
	Montagu D. Scott, J.P.
	Philip Salomons, J.P.
Hare & Co. - -	R. P. King, Magistrate for City and County of Bristol.
	Henry A. Palmer, J.P. for Gloucester.
Henderson & Co.	J. Bramwell, J.P., and Recorder of the City of Durham.
	Samuel Rowlandson, J.P. Durham.
Hitchcock & Co. -	S. M. Gibbons, Alderman and J.P.
	T. M. Dale, Rector.
Holmes, H. & A. -	William Hope, M.A., Vicar of St. Peter's, Derby.
	Thomas P. Bainbrigge, J.P. for Derby.
Hooper & Co. -	Not signed.
Huntley & Palmers	Not signed.

Names.	
Laverstoke Mills	Lovelace B. Wither, Magistrate for the County of Southampton.
	Nelson Rycroft, Magistrate for the County of Southampton.
London Dressmaking Co.	Thomas Hughes, M.P.
	De Grey and Ripon.
	John E. Kempe, Rector of St. James', Westminster.
New Eagley Mills	P. A. Galindo, A.B., Incumbent of Bradshaw, near Bolton-le-Moors.
	F. Ferguson, Mayor of Bolton.
	Thomas Bazley, M.P., J.P., &c.
Panmure Works -	Dalhousie, J.P., Lord Lieutenant.
	C. F. Stevenson, Parish Minister of Barry.
	Stewart D. F. Salmond, Free Church Minister, Barry.
Peek, Frean, & Co.	William W. Landell, J.P. for Surrey.
	Andrew Lusk, J.P. and Alderman, London.
Ransome & Sims -	John C. Cobbold, M.P. for Ipswich.
	Ebenezer Goddard, Deputy Mayor and Magistrate for the Borough of Ipswich.
Saltaire - -	W. Brayshaw, Mayor.
	John V. Godwin, J.P. for Bradford, and Ex-Mayor.
Stafford Road Locomotive Works.	Not signed.
Stoneywood Works	James Smith, Parish Clergyman of Established Church.
	George Jamieson, J.P.
Tailors' Agency -	Thomas B. Burcham, Police Magistrate.
	David A. Moullin, Incumbent of Trinity Church, Newington.
	C. H. Spurgeon, Minister of the Tabernacle, Newington.
Winfield & Co. -	Samuel Buckley, J.P. for the Borough of Birmingham.
	I. Spooner, M.A., Vicar of Edgbaston.

13.

I.—COMMERCIAL UNDERTAKINGS.

APPENDIX GIVING AN ACCOUNT OF THE SUPPLEMENTARY INFORMATION SENT IN WITH EACH RETURN.

Names.

ADAMS & Co.

1. General Statement.

In compliance with the invitation issued under "the new order of reward," I beg to call the attention of the Commissioners to an effort made by an eminent firm, Messrs. Thomas Adams & Co., of Nottingham, to promote "harmony and well-being" among their work-people.

The firm itself dates back as far as the year 1830, when it had for its premises but a small house in Stoney Street. But industry and perseverance, added to a scrupulous integrity, gave such expansion to their business that they were compelled, in the year 1832, to remove to larger premises. Here for some time they continued to prosper, when, owing to unforeseen circumstances, they sustained a most serious loss. It was at this time that Mr. Adams began to realize his responsibility as a master. He thought of the great influence with which providence had intrusted him, and of the small extent to which he had employed it. From that time he resolved should the tide of fortune ever return in his favour he would try what he could do to discharge that which he now felt to be an imperative obligation.

It was not long before his good resolutions were put to the test, for prosperity favoured him as she had never done before. Every balancing day now seemed to bring with it heavier responsibility and more urgent calls to duty, and at length he felt he could delay his purpose no longer.

Finding the business now so greatly increased, he resolved upon building entirely new premises, which in 1855 he did on a large and magnificent scale (see plate at the end of "Model Warehouse"), having regard not only to the conveniences of business, but also to the health and comfort of his people, as well as to their moral and intellectual advancement.

The new edifice presents a handsome frontage of about 144 feet in length, and runs back about the same distance, having considerable open space for light and pure air.

On entering from the street, the first room, which is a specimen of all the rest, will be found spacious and well lighted. Its area is 10,200 feet, and the cubic air space is 117,185 feet.

Throughout the building the windows are numerous, and reach almost to the ceiling. They are hung in the centre, and are readily thrown open. The premises are abundantly supplied with excellent water, and sanatory and personal conveniences are provided for every room. Indeed, whatever prudence and observation can suggest is done to promote the health and happiness of the work-people. (See "Model Warehouse," pages 2 and 3.)

The number of persons at present employed is 85 males and 332 females. Many of these live at some distance from their work. These take their noon and afternoon meals in the warehouse; but to prevent their staying in their work-rooms, and to secure their health and comfort by change of air, two large dining rooms have been built, furnished with every convenience, and two women are employed and paid by the firm, whose sole duty it is to prepare their food and attend to their requirements.

Tea is provided for the males at the expense of the firm, so as to enable them to attend the various classes and meetings held for their benefit each evening.

For the moral and intellectual benefit of the people much has been done.

In giving an account of the various efforts made with this object, I would observe that it is a principle with Mr. Adams that to get a man to recognise his duty towards himself and towards his fellow-man, you must first of all make him sensible of his duty towards his Maker. With

Names.

ADAMS—*cont.*

this object in view, Mr. Adams engaged the services of a clergyman to act as chaplain, whose duty it would be to conduct the daily worship of God, to set on foot such schemes as might be thought conducive to the people's welfare, and to act as their friend and counsellor at all times.

When the new buildings were in course of erection a large and handsome chapel was built, so that all like-minded with himself might meet daily and ask the blessing of God upon "the labour of their hands."

To remove every difficulty he gave the people the time, 20 minutes, so that instead of entering that building as mere living machines, for no other purpose than to do so much work, they now enter it as intelligent creatures of God, whose ultimate destiny is higher and better than anything this world could afford.

But it may be asked, Was not this an interference with the rights and independence of the people? It could not be, as attendance at the service has always been optional. The people, however, have never thought it an interference with their rights, for when these plans were put in operation most earnestly did they set to work to show their appreciation of such noble deeds. They crowded the chapel, a building capable of accommodating at that time 350 persons every morning; indeed it soon became so crowded that additional accommodation had to be provided.

Not long had this service been established, when the people, unknown to their employers and also to the chaplain, quietly raised a subscription for an organ. This they procured at a cost of 120*l.*, and presented it to the firm as an expression of their gratitude and goodwill. (See Chaplain's First Friendly Address, page 13). The instrument is very ably played by one of the clerks, and the choir, which has been admirably trained by him, is composed entirely of employés.

The morning service has gone on without interruption for more than 11 years, and never did it seem more highly appreciated, nor was it ever better attended, than it is at present.

Difficulties arising from religious or rather sectarian animosities have never arisen. (See "Christian Advocate and Review," page 265).

The moral results attending this effort are of the most satisfactory character, for instead of brawls and unseemly behaviour, which were sadly frequent before, now order and peace abound. At work the people are kind, cheerful, and obliging, and it only needs times of adversity or affliction to show how deep and true are the feelings of sympathy and generosity that exist among them for each other. (See "Model Warehouse," page 5.)

Another most important result is the cultivation of a high tone of moral feeling throughout the establishment. When it is considered that the sexes are intermingled, and that males and females are thus constantly working together, it is a gratifying fact that during the last 11 years two instances only have come to the chaplain's knowledge of an improper intimacy having taken place.

Adjoining the chapel is a well-lighted, well-warmed, and neatly furnished schoolroom. This is open every night in the week, Saturday excepted, for some good object or other. Nearly all the children in the warehouse attend, and are taught reading, writing, and arithmetic.

There are also classes for adults. Every facility is afforded them, so that there is not a person in the warehouse who may not, if they wish it, be tolerably well educated.

There are also three classes for the females, which the chaplain personally superintends. These are for the study of the sacred Scriptures. (See Chaplain's Reports.)

The diffusion of sound and wholesome literature is another interesting feature. Books and periodicals may be had through the chaplain at any time. By this means not only are the people themselves supplied with what must benefit and improve them, but these messengers of good are carried to homes where their counsels and instructions are greatly needed. The out-door hands, who are more than twice the number of those employed on the premises, have the advantage of this arrangement. Any of them desiring a book have only to apply to the chaplain, and it is obtained for them at prime cost. (See Friendly Addresses.)

There is a sick club for the females. The payment of one penny a week constitutes each person a member. It is not based on the ordinary club system where the medical man is paid a fixed salary, frequently but small, but to insure proper care each sick person is attended upon as a private patient, and the usual fee is paid for each visit. This, of course,

Names.

ADAMS—*cont.*

entails considerable expense on the house, but so it has been for the last eight years. (For Statements of Accounts see Friendly Addresses.)

The porters some years ago had their wages increased with the distinct understanding that every man should become a member of some friendly society.

There is a penny savings bank. This has heen in operation for the last nine years. Its object has been rather to teach the habit of saving than for the firm to become the peoples' bankers. Accordingly having started them in the warehouse, their accounts have in very many instances been transferred to other banks in the town. The very fluctuating character of the lace trade is prejudicial to its steady growth, and just at this time, although it has been a great comfort to those thrifty ones who practised forethought in better seasons, it is, owing to the fearful depression that now exists, in a much lower condition than usual.

Nottingham abounds with excellent libraries, to which any of the people can have ready access; so that a library for the warehouse is not required. There is nevertheless a useful collection of books provided for the use of the sick.

The health and recreation of the young men have also had attention, and to promote these there has been for the last six years a cricket club in lively action. Considering that its members are all day occupied with business, and have but the summer evenings for practice, they have done themselves credit.

It is the anxious wish of the heads of the house that the youths and apprentices should acquire good business habits, as well as grow in the acquirement of every virtue; and as far as these can be stimulated by kind and encouraging words, the chaplain does all in his power to promote them. (See Parting Address, page 4.)

To afford substantial encouragement to the diligent and punctual a system of rewards has for many years been in operation. The firm provides a fund, a gift of 50*l.* each year, and this is distributed among the apprentices on a sliding scale, regulated by the position each one holds in the time book for punctuality. The result of this is most gratifying, while the youths themselves are admirable for strict attendance at business, there are many who having long ago passed out of the probation of apprenticeship can tell *how many years* have elapsed since they missed recording their names in the time book, or in other words since they were late.

For the protection of young girls every effort is made that experience can suggest.

First.—There is not a room in the warehouse containing girls in which there is not a woman of staid and tried character to overlook them.

Secondly.—Opportunities for misconduct are not afforded, inasmuch as privacy would be next to impossible, every spot being kept open to public view.

Thirdly.—In addition to the overlooker in each department there is a general superintendent, a person whose duty it is to visit each room from time to time. He is a man of education and position, and his testimony to the order and propriety that prevails throughout the establishment is very remarkable.

Fourthly.—Each girl is required to furnish the superintendent with her address, so that if it should be reported that her behaviour out of the warehouse is not respectable, her parents, if she lives at home, are communicated with, or if it is found she is living in improper lodgings others are provided for her which are known to be of a suitable character.

What is done, it may be asked, with girls who marry? The general rule is that those girls who marry shall cease to work in the warehouse; though in some cases, where peculiar hardships might arise, it is dispensed with. But to prevent frequent cases of hardship the managers of departments are instructed that all hands that have left honourably, shall be supplied with work which they can do in their homes.

Every person who leaves the warehouse, having been employed for one year at least, is presented with some useful book. (See Fourth Friendly Address, page 10.)

I have thus far shown what the master has done for the servant, now let me in a few words show what the servant has done. The people of Messrs. Thomas Adams and Co. have not only reciprocated the kind and generous feeling which their employers have manifested towards them, but they have tried in their own little way to emulate them. Eight years

Names.

ADAMS—*cont.*

ago they were anxious to undertake some object of charity which their own large hearts, but small means, might enable them to foster and take care of themselves. Accordingly it was discovered to them that there was a school for poor Indian children on the Red River closed for want of funds; this they at once took up, and for seven years sent out between 20*l.* and 30*l.* annually, until the school became self-supporting.

The next fact I would call attention to was felt at the time when it occurred to be a very affecting one, and beautifully illustrates the feeling of "harmony and well-being" existing between employer and employed.

In the terrible panic of 1857 when the best and most substantial houses trembled through the violence of that commercial crisis, the house of Messrs. Thomas Adams and Co. was no exception to the rule. In the midst of their anxieties and losses the firm were one morning taken by surprise by the presentation from the people of an address of sympathy and condolence, couched in terms of deep affection, and this was done with the prospect of bitter times before themselves. Thirty years earlier and they would in all probability have been smashing frames, breaking windows, and execrating their "oppressors" instead of presenting addresses of sympathy and condolence to their "honoured and respected" employers.

I would mention another fact as showing how "harmony and well-being" are brought about.

Between three and four years ago one of the best works on the relation between employer and employed, that ever appeared in the English language, called "Better Days for Working People" was published by Strahan of Edinburgh.

The chaplain recommended it, and in a few days between 400 and 500 copies had been asked for. The circulation of such literature as that far and wide among the homes of working men must be attended with immense blessings.

Other facts of a similar character might be stated. I would however observe, in conclusion, that in no one particular has this philanthropic work had its origin, or been in any way carried on through legislative enactment. It arose out af a spontaneous feeling of regard on the part of the employer for his people. Nor has there been a single instance in which compulsion has been employed either to establish or maintain any one of these schemes. The master made the arrangements relying on the confidence and good will of the people, and the people have reciprocated this reliance and good faith by most cherfully and gladly availing themselves of these generous arrangements for their "material moral and intellectual well-being." (See Christian Advocate and Review, page 264.)

To insure the hearty co-operation of those employed several of the heads of departments have had given to them an interest in the profits of the departments which they manage. Some of these have retired from business with handsome fortunes, gained almost entirely by their labours in this establishment. The business of this firm has recently been converted into a joint stock company on the limited liability principle, and as a further incentive to co-operation in making the allotment of shares all who desired had some allotted to them in preference to the general public.

The period of service of those employed in the establishment is as follows:—

9	have been employed in the house upwards of 35 years.				
9	above 20 years and under 30 years.				
24	„	15	„	20	„
52	„	10	„	15	„
105	„	7	„	10	„
187	„	3	„	7	„
31	under 3 years.				

Perhaps it would be as well to call the attention of the Commissioners to the important testimony of an eye-witness, whom Lord Brougham has pronounced the ablest writer on the subject of master and servant. It is that of Dr. Blackie, F.R.S.E., author of "Better Days for Working People."

In 1864 that gentleman spent some months travelling over England for the purpose of visiting those establishments where any special arrangements had been made by employers for producing harmony and goodwill between themselves and their people. He came to Nottingham a perfect stranger, and the result of his visit to Messrs. Thomas Adams and Co.'s

Names.

ADAMS—*cont.*

establishment is given in "Heads and Hands of the World of Labour," see page 160.

The foregoing statement I have written at the request of several of the employées of the firm, and have had great pleasure in doing so.

EDWARD DAVIES, Rector of Wilford,
Near Nottingham,
Late Chaplain.
ALFRED C. KINGDON,
Chaplain.

Wilford Rectory,
16 January 1867.

I. L. THACKERAY, (Seal.)
Mayor of Nottingham.
WM. WINDLEY, J. P.
FRANCIS MORSE, M.A.,
Vicar of Nottingham and Rural Dean.

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2. Copy of friendly address to those employed.
3. Copy of No. 6 "The Churchman's Advocate and Review."
4. Copy of a publication by the Manchester Statistical Society, "A Model Warehouse."
5. Copy of "Heads and Hands in the World of Labour." By Dr. W. G. Blackie.
6. View and plan of warehouse.

AKROYD -

1. Regulations to be observed by weavers in the shed.
2. Views of houses at Copley and Akroydon.
3. Rules of the Relief Association.
4. General rules of the Copley Mills Dead Brief Society.
5. Rules of the Haley Hill Working Men's Club.
6. Rules of the Akroydon Building Association.
7. Handy book descriptive of the various institutions in Haley Hill and Copley.

BLISS - -

1. Rules for workpeople at the factory.
2. Photograph of schools and recreation rooms.
3. Specimens of cottages erected for workpeople.
4. View of mills.
5. Certificate of good effected to the neighbourhood by Messrs. Bliss and Son, from the Right Hon. the Earl of Caithness, and the Right Hon. Viscount Duncan.
6. Do. do. from his Grace the Duke of Marlborough.
7. Do. do. from Right Hon. Lord Churchill.
8. Do. do. from the Right Hon. the Earl of Ducie.
9. Do. do. from the Right Hon. Viscount Dillon.
10. Do. do. from the Right Hon. the Earl of Shrewsbury and Talbot.
11. Do. do. from Mayor and number of inhabitants of Chipping Norton.

BRIGGS - -

1. Memorandum.

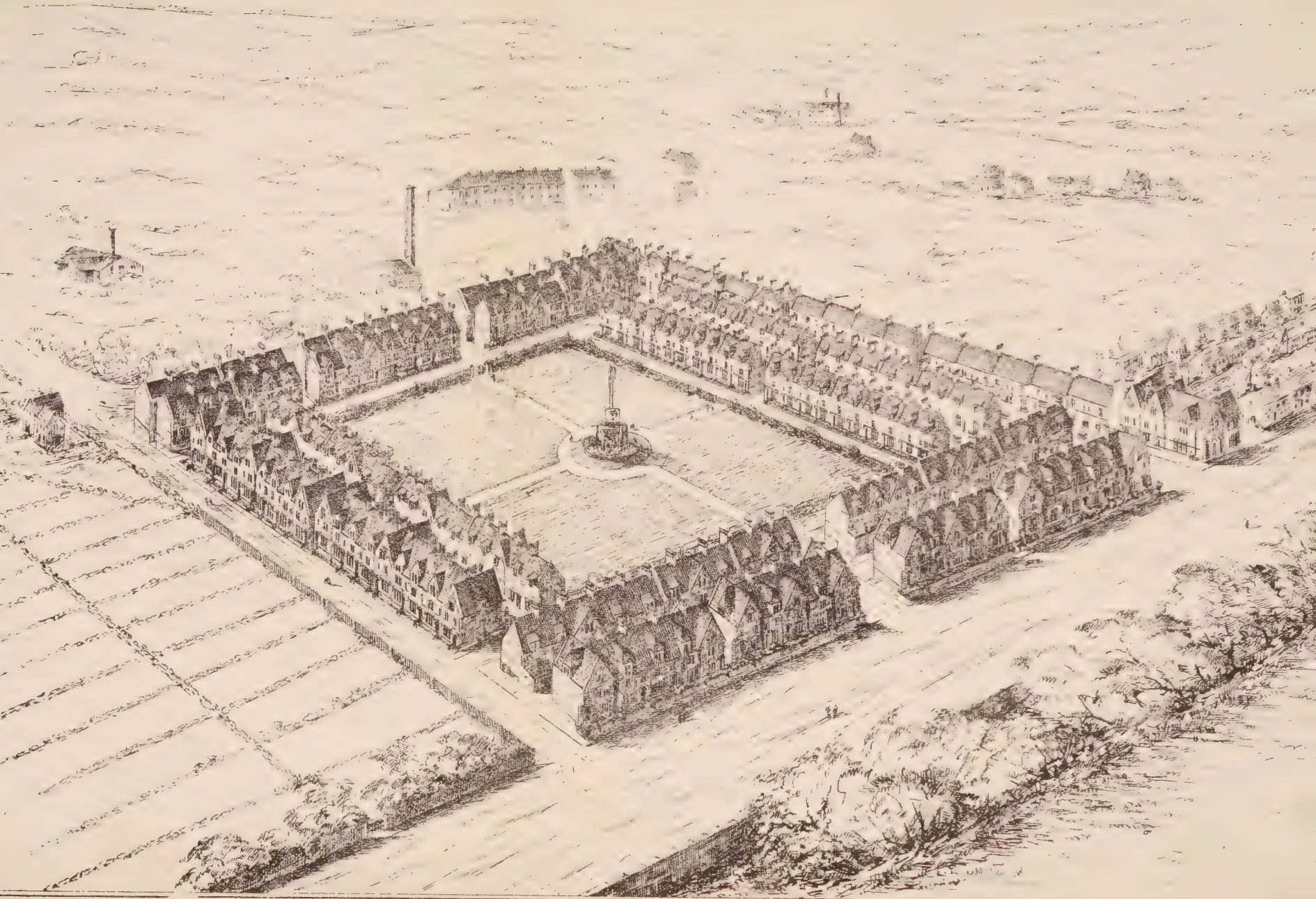
Until the 1st July 1865, the Whitwood, Haigh Moor, and Methley Junction Collieries were carried on as a private undertaking by the firm of Henry Briggs, Son, and Co.

For several years previous to that date the regular working of the coal mines, and the legitimate profits derivable therefrom, had been most seriously interfered with by the occurrence of frequent and lengthened strikes among the workmen.

The most serious of these arose during the year 1863 from a disinclination on the part of the miners to adopt various improved methods of mining which their employers believed would largely increase the yield of the coal seams.

During that year these trade disputes assumed on one occasion such formidable dimensions that the owners of the collieries were compelled to avail themselves of the aid of the police for the protection of their lives and property.

In order to promote better relations between themselves and their workpeople, and to avoid the possibility of a recurrence of similar

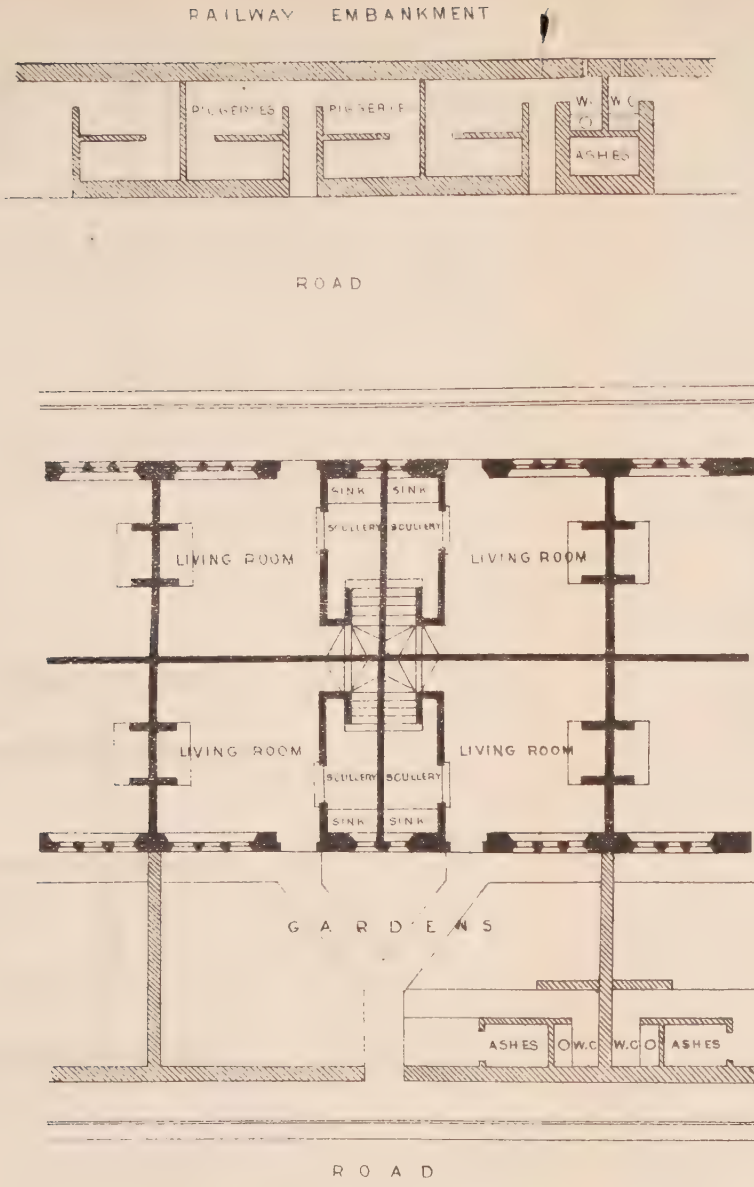


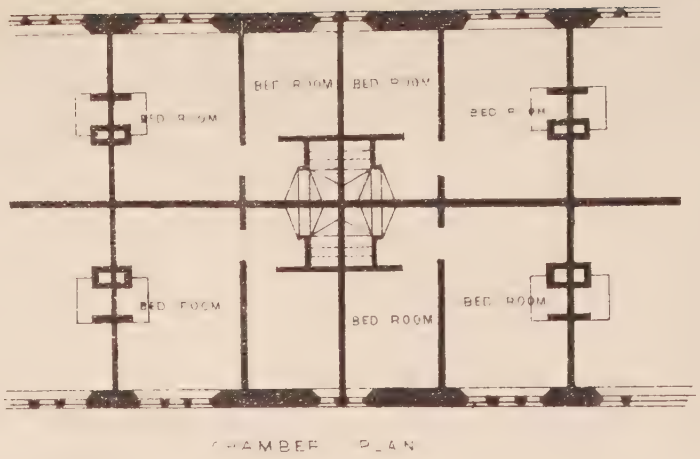
AKROYDON.

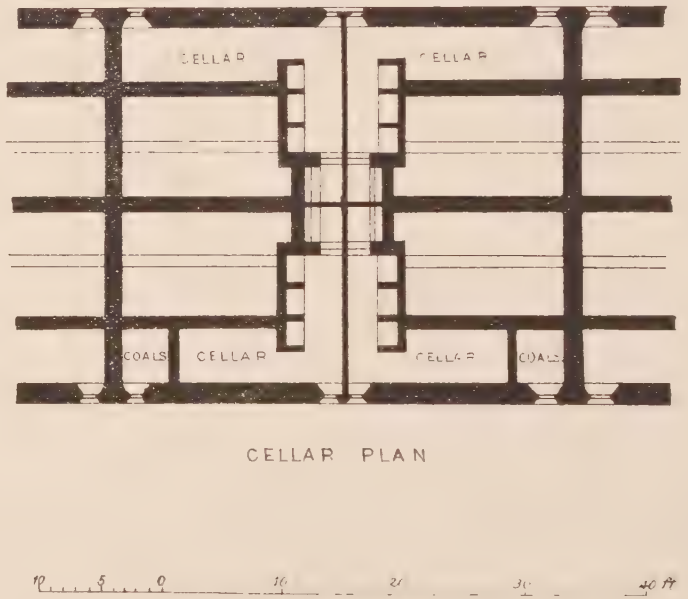
Day & Son Lithrs to the Queen, London

BIRDS-EYE VIEW OF COPLEY VILLAGE.

Dup & Son Limited Lith. London W.1.

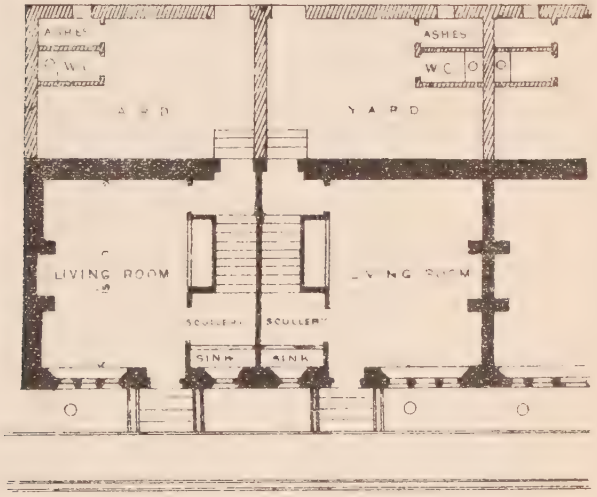






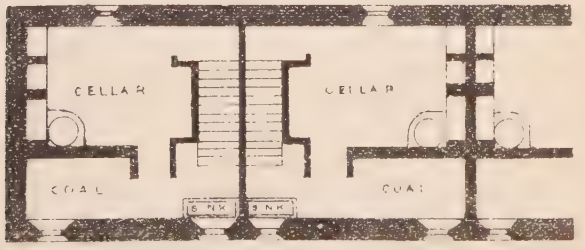
DWELLINGS. COPLEY. BLOCK. Nº 1.

CHAMBER PLAN



ROAD.

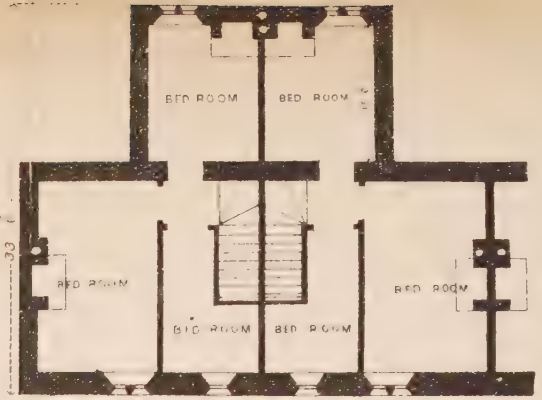
GROUND PLAN



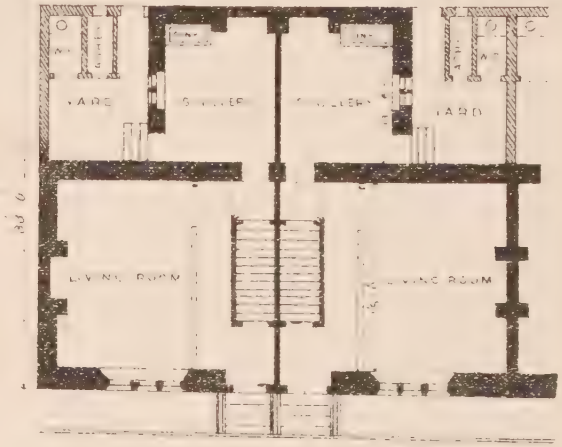
CELLAR PLAN

10 5 0 10 20 30 ft

AKROYDON .— BLOCKS II & III.



CHAMBER PLAN.



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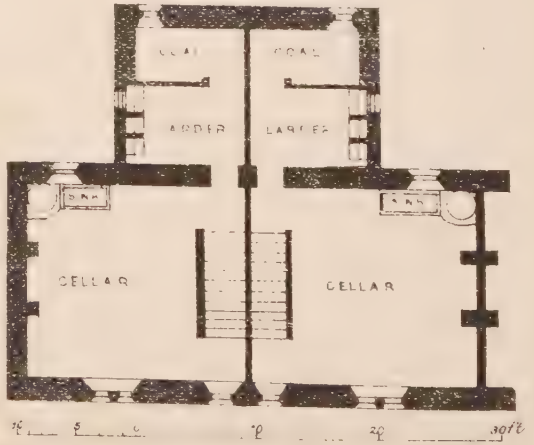
GROUND PLAN



CELLAR PLAN

10 5 0 10 20 30ft

AKROYDON . BLOCKS. II & III.

Names.

BRIGGS—*cont.*

disputes, the undersigned, during the month of November 1864, issued a prospectus (an original copy of which is marked No. 1 of the accompanying documents), containing an offer to register their company under the Limited Liability Act of 1862, with the primary object of enabling their workmen to take shares in the company, and thus to become partners in the undertaking wherein they were employed.

The promoters further proposed that whenever the divisible profits accruing from the business during any year, after making due allowance for depreciation, &c., should *exceed* 10 per cent. on the capital embarked, all those employed by the company should receive one half of such excess profit as a bonus to be distributed amongst them in proportion to their respective earnings during the year in which such profit should have accrued.

On the 21st November 1864 a meeting was held at Castleford, near Leeds, whereat the undersigned explained to their workmen the nature of their proposal. A full report of which meeting is contained in the accompanying paper (marked No. 2).

In May 1865 the managing partner of the company issued an address to the workpeople (an original copy of which is marked No. 3 of the accompanying documents) pointing out the various methods whereby they could largely contribute to the prosperity of the undertaking in which they were invited to co-operate.

During the year ending June 30th 1866, the working of the collieries was carried on uninterruptedly under the co-operative principle specified in the original prospectus, and without the occurrence of any dispute between the workmen and their employers.

The report and balance sheet presented at the termination of that year (a copy of which is marked No. 4 of the accompanying papers) showed a gross profit for the 12 months of 17,880*l.* 16*s.* From that profit a dividend of 12 per cent. was paid to the shareholders, and in accordance with the recommendation set forth in the prospectus, a further sum, equivalent to two per cent. on the paid-up capital of the company, was appropriated to the formation of a workman's bonus fund, which appropriation enabled the company to make a payment to each duly qualified employé of a bonus averaging 7½ per cent. on his earnings during the year.

The result of the operations of the year has been that the workpeople have gradually thrown off all feeling of jealousy or ill-will towards their employers, and have also abandoned any of the special organizations formerly so general amongst them for the protection of their rights against the dreaded encroachments of the capitalist. On the 2nd of October last a large meeting was held by their special desire in the Victoria Hall at Leeds, which was attended by upwards of 1,400 persons connected with the collieries, when a testimonial was presented to the managing director of the company, accompanied by an address, of which the paper marked No. 5 is a copy. A further paper, marked No. 6, contains a full report of the proceedings of that meeting.

The undersigned claim a reward, offered by the Imperial Commissioners of the Paris Exhibition of 1867, for a "special organization which has "developed a spirit of harmony among all those co-operating in the "same work," on the following grounds:—

1st. That they have taken advantage of the recent alteration in the English law to admit their workpeople as partners, or co-shareholders with themselves, on strictly equal terms in proportion to the capital invested by each individual.

2ndly. That they have been the first large employers in England who have allowed all their workpeople, whether co-shareholders with themselves or not, to participate in all divisible profits beyond a fixed percentage on the paid-up capital of the co-partnery.

And 3rdly. That the adoption of these principles of industrial co-operation has changed the relation between employer and employed from a condition of mutual strife and antagonism to one of harmony and goodwill; and further, that it has materially conduced to the moral and intellectual as well as the physical well-being of the workmen.

The undersigned further take the liberty of calling attention to the annexed copy of a letter from Thomas Hughes, Esq., M.P., who has recently visited Whitwood Collieries, also to the speech of Henry Fawcett, Esq., M.P., Professor of Political Economy at Cambridge University, fully reported in accompanying paper No. 6, and to the annexed extract

Names.

BRIGGS—*cont.*

from the last edition of John Stuart Mill's treatise on "the Principles of Political Economy," in confirmation of the justice of the claim now preferred.

HENRY BRIGGS, SON, & Co.

Whitwood Colliery, near Normanton, Yorkshire,
October 1866.

COPY of LETTER from THOMAS HUGHES, Esq., M.P.

GENTLEMEN, Lincoln's Inn, October 8th, 1866.

I cannot allow my late visit to your collieries to pass without expressing to you formally my surprise at the great success achieved in the first year of your working as a partnership of industry, and my great pleasure in witnessing the very satisfactory relations existing between yourselves and the men employed in the mines. Your success is of the utmost importance to the country, for the only hope of a really sound and equitable settlement of the questions which have divided employers and employed in our country into hostile camps rests in these partnerships of industry.

I believe that many coal owners and employers in other trades will follow your example, now that you have proved beyond doubt that while the new relations bring peace between masters and men, they are not only compatible with, but likely to result in, a large increase of profits.

I believe that in taking this step you have done a great work for England, and one which will be gratefully recognized before long by the country. For myself, I tender you my cordial thanks and congratulations.

I am, yours truly,
(Signed) THOMAS HUGHES.

Messrs. Henry Briggs, Son, & Co.,
Whitwood and Methley Collieries, Normanton.

EXTRACT from Mr. John Stuart Mill's "Principles of Political Economy," Book IV., chapter 7, on the "Probable Future of the Labouring Classes."

"Messrs. Briggs, of the Whitwood and Methley Collieries near Nor-
"manton, have taken the *first step*. They have issued a proposal to
"work those collieries by a company, two-thirds of the capital of which
"they will themselves continue to hold, but will in the allotment of
"the remaining third, give the preference to the 'officials and opera-
"'tives employed in the concern,' and, *what is of still greater importance*,
"will propose to the shareholders that whenever the annual profit
"exceeds 10 per cent., one-half the excess shall be divided among the
"workpeople and employés, whether shareholders or not, in proportion
"to their earnings during the year. It is *highly honourable to these*
"*important employers of labour to have initiated a system so full of benefit*
"*both to the operatives employed, and to the general interest of social im-*
"*provement*; and they express no more than a just confidence in the
"principle when they say that 'the adoption of the mode of appropria-
"'tion thus recommended, would, it is believed, add so great an element
"'of success to the undertaking, as to increase rather than diminish
"'the dividend to the shareholders.'"

REPORT on the FORMATION, PRINCIPLE, and OPERATION of the system of INDUSTRIAL PARTNERSHIP adopted by HENRY BRIGGS, SON, & Co., at the WHITWOOD and METHLEY JUNCTION COLLIERIES, near Normanton, Yorkshire.

Until the 1st of July, 1865, the Whitwood and Methley Junction Collieries were worked as a private enterprise by the firm of Henry Briggs, Son, & Co. For several years previous to that date, the regular working of the collieries, and the legitimate profits derivable therefrom, had been most seriously interfered with by the occurrence of frequent and lengthened strikes among the workmen. These unhappy differences became at length so serious, that the proprietors determined to register their company under the Act of 1862, "with the primary view," (as was stated in a prospectus issued during the month of November, 1864), "of securing the co-operation of all connected with the collieries, "either as managers and workpeople, or as customers, in the earnest "hope of thus effecting a satisfactory solution of the difficult problem "now so largely occupying the attention of political economists and

Names.

BRIGGS—*cont.*

"philanthropists, namely, the best mode of associating capital and "labour, and of preventing the occurrence of those trade disputes, "which so frequently disturb the social relations of our country."

After mentioning that the valuation of the property would not exceed the sum at which it stood in the books of the existing firm, it was further stated in the prospectus that the members of that firm would retain at least two-thirds of the share capital, and, "that in allotting the "remaining one-third, they would give a decided preference to applica- "tions for shares:—First, from the officials and operatives employed in "the business; Secondly, from the purchasers of the produce of the "collieries." The amount of the shares was fixed at 15*l.*, with 10*l.* called up, and the most novel feature of the proposed undertaking, was introduced by the following clause:—

"In order, however, to associate capital and labour still more in- "timately, the founders of the company will recommend to the share- "holders, that whenever the divisible profits accruing from the business "shall, after the usual reservation for redemption of capital and other "legitimate allowances, exceed 10 per cent. on the capital embarked, all "those employed by the company, whether as managers or agents, at "fixed salaries, or as workpeople, shall receive one half of such excess "profit as a bonus, to be distributed amongst them in proportion to "their respective earnings during the year in which such profit shall "have accrued." It was added, that the acting partners of the exising firm, would retain the management of the business, each share carrying one vote; also, that facilities would be afforded to the workpeople for the gradual purchase of shares by weekly instalments.

Thus the scheme was inaugurated. When first proposed to the workmen they received it with enthusiasm, and everything seemed likely to proceed as well as could be wished. Soon, however, doubts began to arise in their minds, promoted in the first instance by the paid agents and lecturers of the Miners' Trades Union, who began to fear that if the co-operative company succeeded, strikes would cease, and their employment come to an end. Thus a large proportion of the workmen put no faith in the good intentions of the founders of the company. There were, however, notable exceptions to this rule. From the very first, a small band of steady and thoughtful men (some of whom had been bitter opponents of their employers in previous disputes), rallied round them. Some of them paid up for shares at once, whilst others formed share-clubs, whereby each member, by payment of 1*s.* 3*d.* per week, could eventually become a shareholder.

In order to point out, in greater detail, the various methods whereby the miners might assist to ensure the profitable working of the undertaking in which they were invited to co-operate, the managing partner of the firm issued an address to the workmen during the month of May, 1865, of which the following is a copy:—

"TO THE WORKMEN EMPLOYED AT WHITWOOD AND METHLEY JUNCTION COLLIERIES.

"IT must be well known to all of you that the owners of the above- named collieries have recently come to the important decision of trans- ferring these collieries to a limited liability company, on the 1st of July next. This step is one which is an important one to *you* who are employed at the collieries, as well as to *us* who have provided the capital necessary to bring them into operation, because the principal object we have had in taking this step has been the enabling of *you all* to obtain a direct interest in the prosperity of the undertaking in which *we* as capitalists, and *you* as workmen are engaged.

"It has been a source of regret and some disappointment to us that notwithstanding our endeavour to place our plan before you in the clearest light, and to arrange the working of the company on principles the fairest and most advantageous to you as workmen, we have not been able to induce very many of you to take advantage of the great and unprecedented opportunity offered to you. This must have arisen in great measure from your having failed thoroughly to understand our proposal. I therefore now address to you some remarks on the subject, in such a form that each of you may at his leisure read over, study, and thoroughly understand the plan we have resolved to adopt.

"As we have already stated in our prospectus, we intend to admit as shareholders in the company, *firstly*, any or all of those employed by us,

Names.

BRIGGS—*cont.*

and *secondly*, any or all of those who are accustomed to buy the produce of our collieries. In fact, we wish to adopt a principle of working so thoroughly co-operative that if fully carried out, the strikes and lock-out now so prevalent in all trades, and which all respectable workmen and kind-hearted employers must alike deplore, will be rendered impossible for the future. In order to do this, we not only allow our workmen to become shareholders in our undertaking on the same terms, in proportion to the relative amounts of capital, as ourselves, but we recommend that whenever the divisible profits of the business shall exceed 10 per cent. upon the capital embarked, after making due allowance for depreciation, &c., all those employed by the company, whether as managers, agents, or workmen, shall receive one half of such excess of profit as a per-centage on the amount of their earnings during the year in which the profit shall have arisen. This proposal having been duly laid before a meeting of working shareholders held at Methley Junction on the 22nd of March last, it was then agreed to try the plan for the year ending June 30th, 1866, upon the conditions laid down in the following rules. You will observe that it has with justice been considered as but fair that those workmen who have by taking shares joined in some degree in the risks of the undertaking, should receive some preference in the distribution of the hoped-for bonus, over those who have not thought proper in any degree to identify themselves with the project.

"'RULES.

"'1. Each man or boy receiving weekly wages for day or contract work shall obtain from the colliery office at his own cost a book wherein shall be entered from his wage-notes, by a clerk appointed for the purpose, the amount of wages earned by him.

"'2. In case of two or more men or boys being paid together, and their joint wages entered in one note, such men or boys shall apportion the amount due to *each* before bringing the note to the office for entry of the amounts in their respective books.

"'3. Attendance will be given on alternate Saturdays, between the hours of one and four, at Whitwood and Methley Junction, at offices appointed for the purpose, at which time all men who wish to participate in any bonus that may be earned, must bring their respective wage notes and books to such offices for examination and entry, not less frequently than once each calendar month.

"'4. Any man failing to bring his book and wage notes to the above-named offices for more than four weeks from the date of any such notes, will not be entitled to have his earnings entered among the sums on which a bonus may become payable.

"'5. If during the twelve months ending on the 30th of June in each year that the co-operative system is continued, the profits realized by the company prove sufficient to admit of the payment of a bonus to workers, such bonus will be paid as a per-centage on the wages earned during the same period, but no person who may have earned wages paid weekly will be entitled to receive any part of such bonus unless his wage book, entered in accordance with the rules 3 and 4, is left for examination at one of the above-named offices on or before the 15th July in each year.

"'6. In distributing any bonus that may be divisible at the termination of any year, the directors of the company retain the power of forming a Bonus Reserve Fund, and from time to time of varying the amount of such fund, for the purpose of equalizing the amount of bonus payable, also of giving a preference bonus on their earnings to such workmen as may have paid up the sum of ten pounds on any share in the company. For the year ending June 30th, 1867, and until further notice, shareholders conforming to these rules will be entitled to receive one-half larger proportion of any bonus that may be declared than similarly qualified non-shareholders.

"'7. Any man or boy who loses or destroys his wage book will be liable to pay double price for any new book and for the re-entry thereof.

"'8. Any man or boy who is detected either directly or indirectly attempting to defraud the company, by altering or otherwise tampering with any wage note or wage book, or misrepresenting the amount earned by himself or by any other workman will forfeit all claim to any bonus on his earnings.

"I now have to draw your special attention, *first* to the amount of

Names.

BRIGGS—*cont.*

bonus which various classes of workmen will receive, supposing we can, by our thorough co-operation, succeed in bringing up the divisible profits of the collieries to 12½ or to 15 per cent., and *secondly*, to the means which you have within your own control for insuring this desirable result.

"If 12½ per cent. divisible profit on the subscribed capital be realized, a sum of 1,125*l.* will be available for distribution as bonus to wage receivers, and as it is expected that about 45,000*l.* per year will be paid by the company in salaries and wages, it follows that in such case an average bonus of 2½ per cent. on that sum will be payable according to the foregoing rules in the *proportion* of three per cent. to working shareholders, and two per cent. to working non-shareholders:—

Thus a shareholder who earns—

20*s.*	per week or 52*l.*	per year,	will receive as bonus	1*l.* 11*s.* 2*d.*	per year.
30*s.*	do.	78*l.*	do.	2*l.* 6*s.* 9*d.*	do.
35*s.*	do.	91*l.*	do.	2*l.* 14*s.* 7*d.*	do.

whilst a non-shareholder who earns—

20*s.*	per week will receive as bonus		1*l.* 0*s.* 9*d.*	per year.
30*s.*	do.	do.	1*l.* 11*s.* 2*d.*	do.
35*s.*	do.	do.	1*l.* 16*s* 5*d.*	do.

"If, however, we can succeed in increasing the divisible profits to 17½ per cent. on the capital, as i squite possible by the exercise of care, industry, and economy on the part of all concerned, an average bonus of 7½ per cent. on wages will be distributable, in which case a shareholder who earns—

20*s.*	per week will receive 9 per cent. on his earnings or			4*l.* 13*s.* 7*d.*	per year.
30*s.*	do.	do.	do.	7*l.* 0*s.* 5*d.*	do.
35*s.*	do.	do.	do.	8*l.* 3*s.* 10*d.*	do.

whilst a non-shareholder who earns—

20*s.*	per week will receive 6 per cent. on his earnings or			3*l.* 2*s.* 4*d.*	per year.
30*s.*	do.	do.	do.	4*l.* 13*s.* 7*d.*	do.
35*s.*	do.	do.	do.	5*l.* 9*s.* 2*d.*	do.

"I think it must be clear to all of you that these results are well worth striving for, and I therefore proceed, *secondly*, to point out how it is within the power of each and every one of you to assist in realising them.

"1st. It is within the power of you who are colliers, by each endeavouring to get the coal as large as is possible, to diminish the proportion of slack 3 or 4 per cent., or, on an average production of 5,000 tons per week, to get 150 to 200 tons of *rough* coal which otherwise would be cut into *slack*. As we can sell large coal at 3*s.* per ton higher price than *slack*, the saving in this particular alone would amount to about 30*l.* per week, or 1,500*l.* per year.

"2nd. It is of equal importance that the various *qualities* of coal should be carefully separated below ground. You must all be aware that when *inferior* coal is mixed with *best* coal in one corf, it is necessary to sell the *whole* of the coal contained in that corf at an inferior price. Hence arises a sacrifice of at least 2*s.* per ton in the selling price. If each of the coal-getters employed at the collieries were, by extra care in sorting the coal, to prevent this sacrifice of price, on only two corves per week, *that* alone would amount to 2*s.* per ton on 300 tons, or 30*l.* per week, equalling 1,500*l.* per year. The banksmen may also do much towards effecting a saving under this head by paying proper attention to the tipping and loading of the coal on the surface.

"3rd. It is quite within the power of almost every man employed about the collieries to prevent the waste of various stores and materials, especially wood, oil, and rail. I have heard it remarked that every stall man might, by proper care, save at least one puncheon or prop per week. This is certainly much within the limit, but *that* alone would amount to 6*l.* per week, or upwards of 300*l.* per year. When it is considered that the value of the prop wood used at the collieries reaches upwards of 1,800*l.* a year, it is evident how much scope there is for saving on that item of expense.

"4th. Much is to be done towards promoting the general prosperity of the undertaking, by every man and boy endeavouring, not only to do his own duty, but by seeing that others do not neglect theirs. Unfortunately men throw away without consideration many pounds' worth of their employers' property for the sake of saving a few minutes' labour or trouble to themselves. Let it for the future be

Names.

BRIGGS—*cont.*

ever in your minds that we have endeavoured to make your real interests so far identical with our own, that every man who by neglect or carelessness wastes the property of the company is reducing the amount available for bonus on the *general* earnings. Then again when trade is brisk let every endeavour be made to produce all coal necessary to supply the demands of customers *promptly*; by so doing we shall ensure the support and co-operation of many large consumers and purchasers, whose orders may be most welcome in times of depression of trade. Remember also that many of the expenses of a colliery are the same whether a large business or a small one be done. I might go on to point out many other methods whereby you can contribute to the prosperity of the undertaking in which we are mutually interested. I trust, however, that what I have already said is sufficient to induce you not only to *think* on the subject, but to *act* upon the suggestions I have thrown out, and I would only remind you, in conclusion, that the eyes of many of the most earnest well-wishers of the working classes in England are fixed upon you, and your mode of receiving our proposal. The plan upon which we have founded our company is an entirely new one. Throw aside suspicion and distrust, and give it a fair trial, and I am confident that we shall none of us regret its adoption.

"I can only repeat what I have frequently said to many of you, that our sole object in making the proposal is to realize a plan whereby a better feeling between employers and employed may be promoted, and the interests of the two classes as far as possible identified. If that object be obtained, not only we, but future generations, will have reason to bless the day when our project was propounded.

"I am,

"Your true friend,

"Whitwood Colliery, "H. CURRER BRIGGS.

"Near Normanton."

Such was the position of affairs when, on the 1st of July 1865, the new company commenced operations. During the following 12 months the working of the collieries was carried on uninterruptedly on the novel co-operative plan before specified. Fortunately, a prosperous state of trade prevailed, and this, aided by the increased care and attention of the workmen, and above all by the absence of strikes, enabled the directors to divide 12 per cent. for the year on the paid-up capital among the shareholders, and to devote a sum of 1,800*l.* (equal to 2 per cent. on the capital) to the formation of a workman's bonus fund, out of which was distributed, in accordance with the regulations adopted, a bonus of 10 per cent. on their year's earnings to working *shareholders* (of course in addition to the dividends on their shares), and a bonus of 5 per cent. on their year's earnings to working *non-shareholders*.

This most satisfactory and practical result has of course removed many objections previously urged by the men. They have now the successful experience of the year gone by to encourage them in the work of co-operation. Their employers can remind them of the day when, after receiving their regular wages, every holder of a bonus book came into the pay office, and numbers left it richer men than they had ever been before. Many had a five pound note in their possession for the first time, and some few had two, the highest bonus being paid to a miner, who, being a shareholder, received on his year's earning of 109*l.* 8*s.* 9½*d.* a bonus of 10 per cent., or 10*l.* 18*s.* 10½*d.*

It is also a very satisfactory feature of the case that the amount so distributed has been almost universally *well* spent; by some in the purchase of shares in the company, by others in paying an instalment towards the purchase of a plot of freehold land whereon to build a cottage, while the purchases of articles of furniture or domestic comfort were very numerous.

In considering the applicability of the principle of industrial co-operation adopted by Messrs. Briggs to other undertakings, it is desirable to bear in mind that upwards of 60 per cent. of the cost of raising coal consists in wages paid for manual labour, chiefly performed underground, and a further 12 or 15 per cent. in materials, any unnecessary waste of which can be prevented by care on the part of the miners. From this circumstance arises the greater applicability of the principle to mining enterprise than to any undertaking, the prosperity of which largely depends upon the commercial shrewdness of any one or two individuals.

Names.

BRIGGS—*cont.*

The success of Messrs. Briggs' experiment in greatly improving the relations between themselves and their workmen has been most striking. As has been before remarked, the year gone by has been free from any trade dispute, a larger quantity of coal has been worked, and a larger profit has been realized by the partners than during any previous year, whilst higher wages have been paid to the workmen. It may therefore reasonably be hoped that the bond of union between employers and employed will be so strengthened that it will bear the strain of the adverse times which sooner or later must be felt by every member of our commercial community. That proved, there remains but little doubt but that the principle of industrial co-operation is destined to spread wherever over the civilized world man has to earn his living by the sweat of his brow.

2. Prospectus of the company.
3. Newspaper report of meeting at Castleford, held 21st Nov. 1864, at which the new scheme of co-operation was explained to the workmen.
4. Address by Mr. Briggs to the workmen.
5. Report and financial statement.
6. Address presented to director by workmen.
7. Full report of the proceedings of the co-operative demonstration at Leeds, 2nd Oct. 1866.

BROOK & BROTHERS.

History of Meltham.

CAMPBELL & CO.

1. Rules and regulations for workmen employed.

COMPSTALL MILL PRINT WORKS AND COLLIERIES.

1. Form of Appendix to 56 (see 10, page 31), sent in with an account of the Compstall Co-operative Society.
2. Rules of Compstall Co-operative Society.
3. Last year's balance sheet of do.

Copy of Return required to be sent to the Registrar of Friendly Societies' pursuant to 25 & 26 Vict. c. 87.

GENERAL STATEMENT of the FUNDS and EFFECTS of the COMPSTALL CO-OPERATIVE AND INDUSTRIAL SOCIETY (LIMITED), held at Compstall Road, Ludworth, in the County of Derby, from December 31st, 1865, to December 31st, 1866.

1. Year in which the society was established.—1851.
2. Registered office or place of business.—Compstall Road, Ludworth.
3. Trade or trades carried on by the society.—Grocery and provisions, drapery, shoes, and clothing.
4. Whether credit is taken on purchase of goods?—No.
5. Whether credit is given on sale of goods?
6. Whether the credit for goods to a member is allowed, in any case, to exceed his paid up capital on shares?
7. Number of members on 31st December 1866.—398.
8. Number of members admitted during the year ending 31st December 1866.—64.
9. Number of members who have withdrawn during the year ending 31st December 1866.—20.
10. Total amount received for or credited to shares from the commencement of the society to the 31st December 1866.—Impracticable to answer.
11. Amount of each share.—1*l.* sterling.
12. Amount received on and added to shares during the year 1866.—430*l.* 16*s.* 9*d.*
13. Amount withdrawn by members on account of shares during the year 1866.—240*l.* 16*s.* 9*d.*
14. Amount of share capital on 31st December 1866.—1,681*l.* 14*s.* 6*d.*
15. Amount of loan capital, including interest due, on 31st December 1866.—None.
16. Amount received on loans during year 1866.—None.
17. Amount repaid for loans, &c. during the year 1866—None.
18. Amount paid for interest on shares and loans during the year ending 31st December 1866.—None.
19. Cash paid for goods bought in the year ending 31st December 1866—10,782*l.* 15*s.* 8*d.*
20. Cash received for goods sold in the year ending 31st December 1866.—12,619*l.* 17*s.* 10*d.*
21. Profit realized from all sources in the year ending 31st December 1866.—1,588*l.* 5*s.* 5*d.*

Names.

COMPSTALL MILL PRINT WORKS AND COLLIERIES *—cont.*

22. Profits, how applied? State the various sums paid for interest of shares, &c. dividend on purchases, educational fund, depreciation fund, reserve fund, &c. :—

	£	s.	d.
Interest on shares	79	18	11
Dividend to members	1,486	6	0
Reserve fund	8	17	5
Depreciation of fixtures	8	3	1
Donation, Stockton infirmary	5	0	0
Total	£1,188	5	5

23. Total amount of expenses during the year ending 31st December 1866, including wages, rent, rates, taxes, and all incidentals of work, repairs, additions to fixtures, &c.—450*l.* 4*s.*

24. Whether the accounts are regularly audited, and at what period, and whether by members of the society or public accountant.—Quarterly, by members of the society.

25. Amount of cash in hands of bankers, treasurer, and officers on 31st December 1866.—401*l.* 15*s.* 2*d.*

26. Total amount or value of assets and property of society on 31st December 1866, after depreciation of building and fixtures.—1,923*l.* 13*s.* 6*d.*

27. Total amount of trade liabilities of society on 31st December 1866.—72*l.* 18*s.* 1*d.*

ROBERT THORNLEY, Treasurer.
J. MCLEAN, Secretary.

SETH FRANCE,
THOMAS RIDGWAY,
ROBERT WINTERBOTTOM, } Three Members of the Committee.

STATEMENT of ACCOUNTS for the Quarter ending December 18, 1866.

Cash Account.

DR.	£	s.	d.	CR.	£	s.	d.
To balance from last quarter	413	9	8	By cash paid for—			
„ cash received for store sales	3,359	1	0	Goods	2,932	9	4
„ contributions to capital account	71	14	0	Members' withdrawals	66	9	0
„ contributions to reserve fund	2	7	6	Wages paid shopmen	53	6	0
				Carriage	33	2	11
				Interest and dividend last quarter	329	18	5
				Rent	7	19	8
				Gas	2	19	4
				Donation to Stockport Infirmary	5	0	0
				Stationery	4	8	3
				Incidental expenses, including stock taking, auditing, &c.	3	3	7
				Travelling expenses	1	10	6
				Secretary, one quarter's salary	3	0	0
				Treasurer	1	10	0
				Balance	401	15	2
	£3,846	12	2		£3,846	12	2

Trade Account.

	£	s.	d.		£	s.	d.
To stock in trade, September quarter	1,711	13	2¼	By accounts owing tradesmen, September quarter	60	2	9
„ cash paid for goods, as per cash account	2,932	9	4	„ sales, as per cash account	3,359	1	0
„ accounts owing the society, as per last report	62	18	7½	„ stock in trade, December 18th	1,835	13	9
„ wages	53	6	0	„ accounts owing society	72	10	2
„ carriage	33	2	11				
„ rent and gas	10	19	0				
„ donation to Stockport Infirmary	5	0	0				
„ current expenses	9	2	4				
„ salaries	4	10	0				
„ owing to tradesmen for goods	72	18	1				
„ balance	431	8	2¼				
	£5,327	7	8		£5,327	7	8

Names.

COMPSTALL MILL PRINT WORKS AND COLLIERIES —*cont.*

Capital Account.

LIABILITIES.	£	s.	d.	ASSETS.	£	s.	d.
To members' claims, as per investment ledger -	1,681	14	6	By goods in stock - -	1,835	13	9
„ owing to tradesmen for goods - - -	72	18	1	„ accounts owing the society - - -	72	10	2
„ reserve fund - -	166	11	1	„ fixtures - - -	42	12	9
„ amount disposable -	431	8	2	„ cash in treasurer's hands	401	15	2
	£2,352	11	10		£2,352	11	10

Proposed Disposal of the Balance.

	£	s.	d.		£	s.	d.
To dividend on 3,041*l.* at 2*s.* 8*d.* in the pound - -	405	9	4	By amount disposable - -	431	8	2
„ interest on paid-up shares -	20	9	0				
„ depreciation of fixtures -	3	0	0				
„ balance to reserve fund -	2	9	10				
	£431	8	2		£431	8	2

NOTICE.—Any person having sacks from the society will in future be charged for them the same price as is charged to the society; the same to be returned when the sacks are brought back again.

Audited and found correct, December 31, 1866.

JOSEPH BOWDEN, ROBERT EVANS. } Auditors.

1. MEMORANDUM OF ASSOCIATION, WITH ARTICLES OF ASSOCIATION ANNEXED.

MEMORANDUM OF ASSOCIATION.

CROSSLEY.

1. The name of the Company is "JOHN CROSSLEY AND SONS, LIMITED."

2. The registered office of the Company is to be established in England.

3. The objects for which the Company is established are the acquisition of gain by the Company, and from time to time in order thereto,—

(*a*) The acquiring of the Dean Clough Mills in the townships of Halifax and Northowram, and the cotton mill and works in the township of Northowram, and the dwelling houses, warehouses, lands, and buildings in the townships of Halifax and Ovenden, and the mill and works at Kidderminster, and the warehouse in Cannon Street West in the City of London, and the machinery, apparatus, and plant, and the goods manufactured and in course of manufacture, and the raw and other materials, and the other stock-in-trade, and the patents and patent rights, and the other rights and privileges, and the credits, and generally all the real and personal estates and effects and assets of the firm of Messrs. John Crossley and Sons, now carrying on the manufacture of carpets and other fabrics, and the goodwill of their businesses.

(*b*) The acquiring of the whole or any shares of or interest in any other businesses which the Company consider to be in any way connected with or conducive to the attainment of any of the objects of the Company.

(*c*) The undertaking and carrying on in the United Kingdom and elsewhere of all or any of the businesses so acquired, and any other businesses and transactions which the Company consider to be in any way auxiliary thereto or proper to be carried on in connexion therewith.

Names.

CROSSLEY—*cont.*

(*d*) The acquiring in the United Kingdom and elsewhere of any other patents and patent and other rights and privileges.

(*e*) The exercising in the United Kingdom and elsewhere of the patent and other rights and privileges of the Company; and the granting by them of licences for the exercise of the same.

(*f*) The acquiring and using for any purposes of the Company, and the leasing and disposing of, lands, buildings, machinery, stock-in-trade, and other property real and personal.

(*g*) The providing in the United Kingdom and elsewhere of manufactories, machinery, plant, warehouses, and other buildings and accommodation for the purposes of the Company.

(*h*) The promoting, making, providing, acquiring, working, using, and disposing of railways, tramways, roads, wharfs, stations, canals, collieries, waterworks, gasworks, corn and other mills, houses, buildings, erections, works, and conveniences for any of the purposes of the Company and the contributing to the expenses of providing, making, acquiring, or using the same.

(*i*) The taking, holding, and disposing of shares, stock, and debentures of railway and colliery and manufacturing and other companies.

(*j*) The establishing in the United Kingdom and elsewhere, and the regulating of agencies for the purposes of the Company.

(*k*) The procuring of the complete or partial amalgamation with the Company of any companies carrying on any business of the same or like sort as any businesses undertaken by the Company.

(*l*) The establishing, managing, and assisting of schools, libraries, banks, dispensaries, infirmaries, provident societies, clubs, and other institutions for the benefit of persons employed by the Company and their families and others.

(*m*) The undertaking and doing in the United Kingdom and elsewhere of all other things whatsoever, and whether of the like or different sorts, which the Company think conducive to the attainment of any of their objects or likely to be in any other way advantageous to the Company.

4. The liability of the members is limited.

5. The capital of the Company is 1,650,000*l.*, in 110,000 shares of 15*l.* each, but may be increased.

We, the several persons whose names and addresses are subscribed, are desirous of being formed into a Company in pursuance of this Memorandum of Association, and we respectfully agree to take the number of shares of the capital of the Company set opposite to our respective names.

Dated this Eighteenth day of November, in the year of our Lord 1864.

Names, Addresses, and Descriptions of Subscribers.	Number of Shares taken by every Subscriber.
John Crossley, of Halifax, Carpet Manufacturer.	27,333
Joseph Crossley, of Halifax, Carpet Manufacturer.	29,333
Francis Crossley, of Halifax, Carpet Manufacturer.	29,333
Edward Crossley, of Halifax, Carpet Manufacturer.	2,000
Louis John Crossley, of Halifax, Carpet Manufacturer.	2,000
James Pardoe, of Halifax, Manager to the Messrs. Crossley.	500
George Dearden, of Halifax, Manager to the Messrs. Crossley.	500
Benjamin Musgrave, of Halifax, Chief Clerk to the Messrs. Crossley.	500

Witness to the above signatures,

EDMD. MINSON WAVELL,

18th November 1864. Solicitor, Halifax.

Names.

CROSSLEY—*cont.*

ARTICLES OF ASSOCIATION.

I.—INTRODUCTION.

1. The Company are founded by the firm of Messrs. John Crossley and Sons (now consisting of Mr. John Crossley, Mr. Joseph Crossley, and Sir Francis Crossley, Bart., M.P.) with the primary design of receiving the co-operation of persons associated with their business, and the Company are to take the whole of the partnership property of the firm at a valuation, which has been already made, and which amounts to 1,045,540*l.* 15*s.* 7*d.*

2. 88,000 of the 110,000 shares of the capital, being of the aggregate nominal amount of 1,320,000*l.*, are to be allotted to the present firm, who will apportion those shares between themselves as they think fit.

3. It is intended that not more than 10*l.* a share shall be called up, except where necessary for meeting liabilities or losses of the Company. And if capital be required for extension of the Company's business it shall be raised by new shares.

4. It is intended that allotments of the shares shall be made on the Twenty-first of November 1864, the Company being previously registered, and that a first instalment of 3*l.* a share shall be paid on the First of December 1864; a second instalment of 3*l.* a share on the First of March 1865; and a third instalment of 2*l.* 10*s.* 0*d.* a share on the First of June 1865, making with a deposit of 10*s.* a share already paid an aggregate of 10*l.* a share. The shareholders are to be at liberty to make prepayment of both or either of the second and third instalments.

5. 880,000*l.* part of the amount of the valuation already made of the property of the present firm to be taken by the Company, is to be allowed to the members of the present firm as so much money paid on the First of December 1864 to the Company by them on their 88,000 shares, and the balance is to be paid to them by the Company.

6. Interest at the rate of five pounds per cent. per annum, calculated from the days of actual payment until the first of June 1865, is to be allowed on all instalments paid, and interest at the rate of six pounds per cent. per annum is to be charged on all instalments in arrear.

7. After the First of June 1865 all the shares are to participate rateably in the divisible profits of the Company.

8. Stock is to be taken on the first Saturday in the month of December in every year, the first stock-taking to be in December 1865.

9. The net profits of the Company accruing between the Tenth of September 1864, and the Second December 1865 are to be apportioned between the members of the present firm and the Company as follows:—

To the members of the present firm up to the First of June 1865, and to the Company from that day up to the Second of December 1865.

10. If on the stock-taking in December 1865 the amount realized from the debts due to the firm on the Tenth day of September 1864 be less than the sum at which such debts were estimated and taken in the said valuation of the partnership property, the members of the present firm are to pay to the Company the amount of the deficiency, and if it exceed that sum the Company are to pay to them the amount of the excess.

11. In making the valuation in December 1865, the usual per-centage for the time then elapsed since the making of the valuation already made are to be allowed.

12. The members of the present firm are as governing directors to retain the supreme control in the management of the concern, giving without any salary, the same care and attention to the conduct of the business as heretofore, and the others of the first directors are to give their whole time to the management of their various departments of the business, receiving salaries as they have hitherto done.

13. It is on this basis that the Company is formed. It is therefore agreed as follows:—

II.—INTERPRETATION.

Article 1. In the interpretation of these presents the following words and expressions have the following meanings unless excluded by the subject or context:—

(*a*) "The Statute" means and includes "The Companies Act, 1862," and any or every other Act from time to time in force concerning joint-stock companies and affecting the Company.

Names.

CROSSLEY—*cont.*

(*b*) "These Presents" means and includes the Memorandum of Association of the Company and these Articles of Association and the regulations of the Company from time to time in force.

(*c*) "Special Resolution" means a special resolution of the Company as defined by Section 51 of "The Companies Act, 1862."

(*d*) "Directors" means the Directors from time to time of the Company or, as the case may be, the Directors assembled at a Board.

(*e*) "Governing Directors" means and includes Mr. John Crossley, Mr. Joseph Crossley, and Sir Francis Crossley, Bart., and such two and such one of them as from time to time continue to be Governing Directors as provided by these presents.

(*f*) "Ordinary Meeting" means an ordinary general meeting of the Company duly called and constituted, and any adjourned holding thereof.

(*g*) "Extraordinary Meeting" means an extraordinary genera meeting of the Company duly called and constituted, and any adjourned holding thereof.

(*h*) "General Meeting" means an ordinary meeting or an extraordinary meeting;

(*i*) "Board" means a meeting of the Directors duly called and constituted, or as the case may be, the Directors assembled at a Board.

(*j*) "Month" means calendar month.

(*k*) "Writing" includes printing.

(*l*) Words importing the singular number only, include the plural number, and words importing the plural number only, include the singular number.

(*m*) Words importing the masculine gender only, include the feminine gender.

III.—CONSTITUTION.

Article 2. The articles of Table (A) of the Companies Act, 1862, shall not apply, but instead thereof the following shall be the regulations of the Company, but subject to repeal, addition, and alteration, as provided by these presents, and this Article is fundamental.

IV.—BUSINESS.

Article 3. The business of the Company shall include all businesses within the scope of the Memorandum of Association from time to time undertaken by the Company, and all incidental matters. But their original business shall be the businesses carried on by the present firm of Messrs. John Crossley and Sons.

Article 4. The Company from time to time on, but not without, the previous recommendation of the Governing Directors, or that failing then of the Board, may undertake any extensions of or additions to their original business being respectively within the scope of the Memorandum of Association.

Article 5. The business shall be carried on by or under the management of the Governing Directors, or them failing then of the Board, but as regards the Board subject to the control of general meetings in accordance with these presents.

Article 6. No person, except the Governing Directors and persons thereunto expressly authorized by the Board, shall have any authority to make, accept, or indorse any promissory note or bill of exchange in the name of or on behalf of the Company, or otherwise to pledge the credit of the Company.

Article 7. No person, except the Directors and persons thereunto expressly authorized by the Board, and acting within the limits of the authority conferred on them by the Board, shall have any authority to enter into any contract so as to impose thereby any liability on the Company.

Article 8. The Governing Directors shall not make, accept, or indorse any promissory note or bill of exchange in the name or on behalf of the Company, or authorize or adopt any act in that behalf, except in every case in the ordinary course of the business of the Company, or in pursuance of a specific resolution of the Board declaring it to be in the opinion of the Board necessary for the interests of the Company so to do, and every such specific resolution shall be reported to the then next general meeting.

Names.

CROSSLEY—*cont.*

Article 9. All moneys payable to the Company shall be received by the Board or by some person authorized by the Board, and shall be paid to the account of the Company.

Article 10. The receipts of some person or persons authorized by the Board shall be effectual discharges for all moneys therein expressed to be received, and from all liability, claims, and demands in respect thereof.

V.—OFFICE.

Article 11. The office shall be at the Dean Clough Mills in Halifax, or at such other place as the Board from time to time appoint.

Article 12. There shall be such branch offices, if any, in the United Kingdom and elsewhere, as the Board from time to time appoint.

VI.—FIRST DIRECTORS AND OFFICERS.

Article 13. The following shall be the first and present Directors and officers:—

Directors.

John Crossley, Esq., Carpet Manufacturer, Halifax.
Joseph Crossley, Esq., Carpet Manufacturer, Halifax.
Sir Francis Crossley, Bart., M.P., Carpet Manufacturer, Halifax.
Edward Crossley, Esq., Son of Mr. Joseph Crossley.
Louis John Crossley, Esq., Son of Mr. John Crossley.
Mr. James Pardoe, Manager to Messrs. John Crossley and Sons.
Mr. George Dearden, Manager to Messrs. John Crossley and Sons.
Mr. Benjamin Musgrave, Chief Clark to Messrs. John Crossley and Sons.

At an Extraordinary Meeting of Shareholders, held on the 19th January 1866 pursuant to Art. 86, Henry Crossley, Esq., son of Mr. Joseph Crossley, was appointed a Director.

Solicitors.

Messrs. Wavell, Philbrick, and Foster, Halifax.

Auditors.

Messrs. Theodore Jones & Co., 8, Moorgate Street, London.

VII.—CAPITAL.

Article 14. The Company from time to time with the sanction of the Governing Directors, or that failing then of a special resolution may increase the capital by new shares.

Article 15. Any capital raised by new shares shall, except so far as the Company in general meeting on the creation thereof otherwise determine, be considered as part of the original capital, and shall be subject to the same provisions in all respects, whether with reference to the payment of calls or the forfeiture of shares on nonpayment of calls or otherwise as if it had been part of the original capital.

Article 16. The amount from time to time of the new capital shall except so far as the Company in general meeting on the creation thereof otherwise determine be offered by the Directors to the then Shareholders in proportion to the number of their respective shares. But no shareholder shall be entitled to any allotment of new shares which would involve the allotment of any fraction of a share.

Article 17. But if the Company after having attached to any new shares any preference or guarantee or other special privilege create any further new shares the holders of the new shares to which the special privilege is attached shall not unless the Company in general meeting otherwise determine be entitled to an offer of any of the further new shares.

Article 18. So many of the new shares as are not taken by the shareholders to whom they are offered, may be disposed of to other persons as the Board think fit.

Article 19. With the authority of a special resolution, and the consent of seven-eighths in number and value of the holders of all the shares, or as the case may be, all the shares of any class; all the shares, or as the case may be all the shares of the respective class may be consolidated into a smaller number of shares, or when fully paid up may be converted into stock.

Names.

CROSSLEY—*cont.*

VIII.—BORROWING.

Article 20. The Company from time to time, with the sanction of the governing directors or that failing then of general meeting, may borrow on mortgage of or other security on their property, or any part thereof, or on bond or debenture any sum they think fit.

Article 21. The Company, from time to time, on the authority of the Board may re-borrow on mortgage, bond, and debenture respectively, or on all or any of those securities; any sums theretofore borrowed on those securities, or any of them.

Article 22. The mortgages, bonds, and debentures granted by the Company may be respectively at such rates of interest, and on such terms and conditions as the Board think fit, and the mortgages may be with or without powers of sale or other powers as the Board think fit.

IX.—RESERVED FUND.

Article 23. Such a portion (if any) of the capital money and revenue of the Company as the Board from time to time think fit, shall be set apart as a reserved fund to be applicable at the discretion of the Board for the liquidation of the mortgage, bond, or debenture debt of the Company, or for any other purposes of the Company for which capital is properly applicable.

Article 24. For the purpose of equalization of dividends, the Board from time to time may in their discretion advance any part of the reserved fund to the account of revenue, but every such advance shall be repaid to the reserved fund out of the first profits of the Company realized after the advance.

Article 25. With the sanction of the governing directors, or that failing then of a general meeting, the Board from time to time may apply for any purposes of the Company for which capital or revenue is applicable, any part of the reserved fund theretofore contributed thereto out of revenue.

X.—DEPRECIATION FUND.

Article 26. Such a portion (if any) of the profits of the Company as the Board from time to time think fit, may with the sanction of a general meeting be set apart as a depreciation fund to be applicable at the discretion of the Board for re-building or restoring any part of the buildings, works, machinery, plant, stock-in-trade, or other property of the Company destroyed or damaged by fire, flood, storm, tempest, riot, or other means, or worn out, and for repairing and otherwise keeping in good condition any of the property of the Company.

XI.—INVESTMENT OF MONEYS.

Article 27. All capital-money and all moneys carried to the reserved fund, and the depreciation fund respectively, and all other moneys of the Company not immediately applicable for any payment to be made by the Company may be invested by the Board, in or upon such Government, or real or personal, or other securities or investments, or be deposited as the Board from time to time think proper.

Article 28. The Board may keep at the bankers' such a balance as the Board from time to time think fit, and notwithstanding any of the bankers being a director.

Article 29. Capital money may be invested as provided by these presents in the purchase of shares of the Company's capital.

XII.—GENERAL MEETINGS.

Article 30. The ordinary meetings shall be held yearly at such place on such day and at such hour as the Board from time to time appoint.

Article 31. But until the Board otherwise appoint the day for the ordinary meeting shall be the first Wednesday in the month of February in every year, or within one month before or after that day, and the first ordinary meeting shall be held in the year 1866.

Article 32. An extraordinary meeting may at any time be called by the Board of their own accord.

Article 33. After the number of the governing Directors is reduced to one but not before an extraordinary meeting shall be called by the Board whenever a requisition of any number of shareholders holding in the aggregate not less than one-fifth of all Shares and stating fully the object

Names.

CROSSLEY—*cont.*

of the meeting and signed by the requisitionists is left at the office for the Board.

Article 34. Whenever the Board fail for fourteen days after the delivery of any requisition in accordance with Article 33 to call a meeting in accordance therewith, the requisitionists or any shareholders holding in the aggregate not less than one fifth of all the shares may call the meeting.

Article 35. Every general meeting shall be held at such convenient place as the Board or the shareholders calling the meeting appoint.

Article 36. So long as a governing Director is in office a governing Director shall if present and willing to act be the Chairman of the Meeting and where two or more governing Directors are present and willing to act, the preference between them shall be determined by seniority, Mr. John Crossley being senior to Mr. Joseph Crossley, and he to Sir Francis Crossley, and this Article is fundamental.

Article 37. Where a governing Director present at a general meeting and unwilling to act as Chairman would if he were willing be the Chairman, he may nominate any shareholder present and willing to act to be the Chairman and he shall be the Chairman, and this Article is fundamental.

Article 38. Where no governing Director is present at a general meeting the governing Directors at any time after notice for the meeting is given may by writing under their hands nominate any shareholder to be the Chairman of the meeting, and if he be present at the meeting and willing to act he shall be the Chairman, and this Article is fundamental.

Article 39. In every case not otherwise provided for by these presents the Chairman of a general meeting shall be chosen by the shareholders present, but where a Director is present and willing to act no shareholder not being a Director shall be chosen.

Article 40. Ten shareholders shall be a quorum for a general meeting for the choice of a Chairman for the meeting and for the declaration of a dividend and for the adjournment of the meeting.

Article 41. Except for those purposes the quorum for a general meeting shall be fifteen shareholders.

Article 42. No business shall be transacted at any general meeting except when the quorum for the business is present.

Article 43. No business except the choice of a Chairman or the adjournment of the meeting shall be transacted or discussed at any general meeting while the chair is vacant.

Article 44. If within one hour after the time appointed for the holding of a general meeting the quorum be not present the meeting if convened on the requisition of shareholders shall be dissolved and in every other case shall stand adjourned to the next working day at the same place and to meet at the same time of the day as was appointed for the holding of the general meeting.

Article 45. If at any adjourned general meeting the quorum be not present within half an hour after the time for holding the meeting it shall be dissolved.

Article 46. The Chairman, but unless he be a governing Director, not without the consent of the meeting may adjourn any general meeting from time to time and place to place, but not in any case for more in the whole than forty-two days after the day for holding the original meeting.

Article 47. No business shall be transacted at any adjourned general meeting, other than the business left unfinished at the general meeting from which the adjournment took place, and which might have been transacted at that meeting.

Article 48. The Board calling any general meeting and the shareholders calling any extraordinary meeting shall respectively give at least seven days' and not more than fifteen days' notice of the meeting, and if it be adjourned for more than seven days, shall give at least four days' notice of the adjourned meeting.

Article 49. The notice calling a general meeting shall be reckoned exclusive of the day of giving the notice and inclusive of the day of the meeting.

Article 50. Notices calling general meetings shall be given by circulars to the shareholders registered as resident in the United Kingdon, expressing the time and place of meeting.

Names.

CROSSLEY—*cont.*

Article 51. The Board calling a general meeting may also, if they think fit, give notice of the meeting by advertisement.

Article 52. In every case in which by these presents notice of any business to be transacted at a general meeting is to be given, the circular and the advertisement (if any) shall specify the business.

Article 53. Any such circular may be sent by post as a letter addressed to the shareholder in accordance with his address in the register, and if so sent shall be deemed to be delivered to him on the day on which, in the regular course of the post, it would be delivered at the place to which it is addressed.

Article 54. The non-receipt by a shareholder of notice of a general meeting shall not affect the validity of any of the proceedings of the meeting.

XIII.—POWERS OF GENERAL MEETINGS.

Article 55. Any general meeting, when notice in that behalf is given, may remove any Director, not being a governing Director, or any Auditor, for misconduct, negligence, incapacity, or other cause deemed by the meeting sufficient, and may supply any vacancy in the office of Director or Auditor, and may fix the remuneration of any of the Directors other than the first Directors, and of the Auditors, and may in accordance with these presents, alter the number of Directors, and may resolve on any matter for which, in accordance with these presents, the resolution of a general meeting is requisite, and subject to the provisions of these presents, may generally decide on any affairs of or relating to the Company, but not so as to invalidate any prior lawful act of the Board.

Article 56. Any ordinary meeting without any notice in that behalf, but only in accordance with these presents, may elect Directors and Auditors, and may receive, and either wholly or partially reject or adopt and confirm the accounts, balance sheets, and reports of the Directors and Auditors respectively, and may decide on any recommendation of the Board, of or relating to any dividend, and subject to the provisions of these presents, may generally discuss any affairs of or relating to the Company.

Article 57. But no general meeting shall be entitled to require any information with respect to any of the processes or means employed or results arising or made in any particular department of the manufacturing operations of the Company, or any other information which the Board consider it to be inconsistent with the interests of the Company to make public and this Article is fundamental.

Article 58. When any general meetings by special resolution have determined on an increase of the capital, the meetings or any other general meetings may by special resolution determine on the extent to which the increase shall be effected by the issue of new shares, and the conditions on which the capital shall be so increased, and the time, mode, and terms at and on which the new shares shall be issued, and how the premium (if any) on the new shares shall be applied.

Article 59. Any general meetings determining on the conditions on which any new shares shall be issued may determine that the new shares shall be issued as one class or as several classes, and may attach to the new shares or to the new shares of all or any of the classes any special privileges with reference to preferential guaranteed, fixed, fluctuating, redeemable or other dividend, or otherwise, or any special conditions or restrictions.

Article 60. If after any general meetings by special resolution have determined on the issue of new shares, all the new shares are not issued accordingly, any general meeting may determine that all or any of the unissued new shares shall not be issued, but shall be cancelled, or may determine on any alteration of the conditions on which all or any of the unissued new shares shall be issued, or the special privileges or restrictions attached to all or any of the unissued new shares.

Article 61. Where any general meetings by special resolutions have resolved on any consolidation of shares into a smaller number of shares, or any conversion of shares into stock, the meetings or any other general meetings, may by special resolution make all such regulations for giving effect to the consolidation or conversion, and for all incidental matters as the meetings think requisite.

Article 62. But no special resolution for the increase of the capital, or

Names.

CROSSLEY—*cont.*

with respect to the consolidation or conversion of shares, and no resolution affecting any new shares shall be passed without the recommendation of the Board.

Article 63. The Company may, in general meetings, from time to time by special resolution alter and make new provisions instead of or in addition to any regulations of the Company, whether contained in the said Articles of Association or not.

Article 64. The authority of general meetings from time to time by special resolution to alter and make new provisions instead of or in addition to any of the regulations of the Company, shall extend to authorize every alteration whatsoever of these presents, except only the regulations of the Company which provide for the proportionate equality of the liability of the shareholders, and that their liability is limited, and (except as is provided by Article 67), such of these Articles as are therein expressed to be fundamental, which excepted regulations shall accordingly be deemed the only fundamental and unalterable regulations of the Company, but the Company shall be bound by all their special resolutions under which any shares were issued, with special privileges, and all new regulations of the Company shall have effect accordingly, and this Article is fundamental.

Article 65. Two successive extraordinary general meetings held within three months by resolution passed by at least four-fifths of the votes of the shareholders voting at the first meeting, and by at least three-fourths of the votes of the shareholders voting at the second meeting may resolve on the dissolution of the Company, and the purposes for which, and the time, mode, terms, and conditions at, in, and on which the dissolution shall take place.

Article 66. Provided that any resolution recommended by the Board, and which after at least one month's notice thereof to all the shareholders registered as resident in the United Kingdom, is adopted or sanctioned by at least three-fifths in number and value of the shareholders shall, except for the dissolution of the Company, and for any matter for which by the statute a special resolution is required, be as valid and effectual as a resolution of a general meeting, or as a special resolution.

Article 67. Any article therein expressed to be fundamental may be repealed or altered by a resolution in writing, signed by nineteen-twentieths in number and value of the shareholders, and this article is fundamental.

Article 68. Provided that so long as there are two acting Governing Directors, no resolution of a general meeting, except for the choice of a Chairman for, or the adjournment of the meeting shall be deemed to be passed, unless it be recommended or approved by the Governing Directors, or two of them, by writing under their hands, and this article is fundamental.

XIV.—PROCEDURE AT GENERAL MEETINGS.

Article 69. At every general meeting the person, who in accordance with these presents is to be the Chairman, shall take the chair.

Article 70. At every ordinary meeting at which any Director is to retire from office, he shall remain in office until the dissolution of the meeting, when he shall retire from office.

Article 71. The first business of every general meeting, after the chair is taken, shall be the reading of the minutes of the then last general meeting and if the minutes do not appear to the meeting to have been signed as required by the statute, they shall, on being found or made correct, be signed by the Chairman of the meeting at which they are read, and they shall be sealed with the Company's seal.

Article 72. Except where otherwise provided by these presents, every question to be decided by any general meeting, unless resolved on without a dissentient, shall be decided by a simple majority of the shareholders personally present thereat, and unless when a ballot is required shall be decided by a show of hands.

Article 73. Every special resolution and every question required by these presents to be decided by any other than a simple majority of the shareholders personally present at a general meeting shall, unless resolved on without a dissentient, be decided by ballot.

XV.—BALLOT.

Article 74. A ballot on any resolution of a general meeting shall be had, if it be demanded, before the dissolution or adjournment of the

Names.

CROSSLEY—*cont.*

meeting, by a written requisition, signed by shareholders holding together at least one-fifth of the shares, and delivered to the Chairman or to the Secretary,

Article 75. At any general meeting, unless a ballot on any resolution thereof be demanded, a declaration by the Chairman that a resolution is carried, and an entry to that effect in the minutes of the proceedings of the meeting, shall be sufficient evidence of the fact so declared, without proof of the number or proportion of the votes for or against the resolution.

Article 76. If a ballot be demanded, it shall be taken in such manner, at such place, and immediately or at such time within seven days thereafter, as the Chairman of the meeting directs, and the result of the ballot shall be deemed the resolution of the general meeting at which the ballot was demanded.

XVI.—Voting at General Meetings.

Article 77. On every question to be decided by a simple majority of the shareholders personally present at any general meeting, every shareholder personally present thereat, and qualified according to these presents to vote, shall be entitled to vote.

Article 78. On every question to be decided by ballot, every shareholder present thereat, in person or by proxy, and entitled to vote thereat, shall have one vote for every share held by him.

Article 79. If more persons than one are jointly entitled to a share, the person whose name stands first on the register of shareholders as one of the holders of the share, and no other person shall be entitled to vote in respect thereof.

Article 80. Where any parent, guardian, committee, husband, executor, or administrator respectively of any infant, lunatic, idiot, female, or deceased shareholder desires to vote in respect of the share of the incapacitated or deceased shareholder he may become as provided by these presents a Shareholder in respect of the share, and may vote accordingly.

Article 81. A shareholder personally present at any general meeting may decline to vote on any question thereat, but shall not by so declining be considered absent from the meeting.

Article 82. A shareholder entitled to vote may from time to time appoint any other shareholder as his proxy in voting at any ballot.

Article 83. Every instrument of proxy shall be in writing in accordance with the following form, and be signed by the appointer, and shall be deposited at the office at least forty-eight hours before the day for holding the General Meeting whereat it is to be acted on, and shall be kept with the records of the Company, but shall be produced on every reasonable request, and at the expense (if any) of the shareholder or his proxy.

Article 84. The following shall be the form of the instrument of proxy :—

"I (A.B.), a shareholder of John Crossley and Sons, Limited, hereby
"appoint C.D., another shareholder of the Company, to act as my
"proxy at the general meeting of the Company to be held on the
" day of 18 and at every adjournment
"thereof. As witness my hand this day of ,
"A.D. 18 ."

"(Signed)"

Article 85. The person in the chair at a general meeting shall in every case of equality of votes on a ballot or otherwise have an additional or casting vote.

XVII. Directors Generally.

Article 86. The number of directors, not to be more than twelve or fewer than eight, shall from time to time be determined by an extraordinary meeting; but until any other number is so determined on there shall be eight Directors.*

* At an extraordinary meeting of shareholders held on 19th January 1866 it was determined that the number of Directors of the Company shall henceforth, and until the number shall be hereafter varied by a resolution of some extraordinary meeting of the Company, be nine.

Article 87. The share qualification of a director shall be his holding in his own right at least five hundred shares, provided that where an extra-

Names.

CROSSLEY—*cont.*

ordinary meeting on the recommendation of the Board so resolve, a director may be qualified by holding the shares, though not in his own right.

Article 88. Except as regards the original shareholders and shareholders recommended by the Board for election as Directors, every Director shall have been the holder of his qualifying number of shares at least six months.

Article 89. At the first ordinary meeting in the year 1866, and at the first ordinary meeting in every subsequent year one-third, or as nearly as can be one-third, of the Directors exclusive of Governing directors shall retire from office, so that all the Directors, exclusive of Governing Directors, retire in every successive three years.

Article 90. On every retirement of Directors in rotation the Governing Directors shall nominate, or them failing, the meeting at which they retire shall elect to supply their places an equal number of qualified shareholders.

Article 91. The rotation for the retirement of the first and present Directors, exclusive of the Governing Directors, shall be determined by the Governing Directors before the year 1866.

Article 92. Whenever any question arises as to the retirement in rotation of any Director it shall be decided by the Governing Directors, or them failing, by the Board.

Article 93. Every retiring Director, if qualified, shall be eligible for re-nomination or re-election.

Article 94. A Shareholder not being a retiring Director shall not unless nominated by the Governing Directors or them failing recommended by the Board for election as a Director be qualified to be elected a Director unless he give or leave at the office not less than twenty one days nor more than two months before the day for election of Directors notice in writing under his hand of his willingness to be elected a Director.

Article 95. Whenever the Governing Directors fail to nominate or the first ordinary meeting in any year fail to elect Directors instead of the retiring Directors the meeting shall stand adjourned to the next working day at the same place and at the same hour as were appointed for the holding of the meeting adjourned, and if at the adjourned meeting the proper number of Directors be not nominated or elected the Directors to retire shall continue in office till the first ordinary meeting in the following year.

Article 96. Every Director shall vacate his office on the happening of any of the events following, that is to say:—

(*a.*) His ceasing to hold his qualifying number of Shares.

(*b.*) His becoming bankrupt or publicly insolvent or suspending payment or compounding with his creditors.

(*c.*) His being found lunatic or becoming of unsound mind.

(*d.*) His holding any office or place of profit in the Company other than Director.

(*e.*) His being concerned in or participating in (except as a Shareholder of an incorporated Company) the profits of any contract with the Company other than a contract with respect to the loan of money or being a Governing Director the profits of any contract for the sale and conveyance to the Company of real estate or the supply to the Company of corn wool or other produce grown on his Estate.

Article 97. A Director may at any time give notice in writing of his wish to resign by delivering it to the Chairman of the Directors or to the Secretary or leaving it at the office and thereupon if he be a Governing Director or if he be not a Governing Director then on the acceptance of his resignation by the Board but not before his office shall be vacant.

Article 98. Any occasional vacancy in the office of Director may be filled up by the Governing directors or them failing by the Board by the appointment of a qualified Shareholder who shall in all respects stand in the place of his predecessor.

XVIII.—GOVERNING DIRECTORS.

Article 99. With respect to each of Mr. John Crossley Mr. Joseph Crossley and Sir Francis Crossley he shall while holding during the joint directorship of at least two of them not less than 10,000 Shares or while sole continuing Governing Director holding not less than 15,000 Shares

Names.

CROSSLEY—*cont.*

of the Company's capital and not having resigned be a Governing Director and this Article is fundamental.

Article 100. A Governing Director shall not be removable or subject to retirement in rotation but shall continue in office unless and until he resigns save only that he shall be subject to the provisions of Article 96 and this Article is fundamental.

Article 101. The provisions of these presents with respect to Governing Directors apply when there are three Governing Directors to the three and any two of them and when there are only two Governing Directors to the two, and when there is only one Governing Director to the one and the authorities conferred by these presents on the Governing Directors may accordingly be exercised by three Governing Directors two Governing Directors, and except where by these presents the concurrence of at least two Governing Directors is required one Governing Director respectively, and this Article is fundamental.

Article 102. Every resolution in writing under the hands of two Governing Directors shall be as valid and as binding on the Company as a resolution of a general meeting or a resolution of the Board, and this Article is fundamental.

Article 103. The Governing Directors may affix the Company's Seal to any resolution in writing under the hands of the Governing Directors so as to make it the act of the Company, and this Article is fundamental.

Article 104. In addition to the other authorities expressly and by implication conferred by these presents on the Governing Directors, they shall have, to the exclusion of general meetings and the Board, full authority to determine the following matters :—

(*a.*) Who shall be admitted to be shareholders.

(*b.*) Who shall be the other Directors.

(*c.*) The salaries or remuneration of the Directors other than the Governing Directors.

(*d.*) What resolutions shall be proposed to general meetings and Boards respectively.

(*e.*) What shall be the amounts carried to the reserved fund and the depreciation fund respectively, and how these funds shall be dealt with.

(*f.*) What shall be the amounts of dividend, and when they shall be declared and paid.

(*g.*) What businesses shall be undertaken and given up by the Company.

And this Article is fundamental.

Article 105. Inasmuch as the Governing Directors are to have the supreme control in the management of the concern, two of them may, when and as they think fit, exercise any or all of the authorities expressly or by implication conferred by these presents on general meetings and Boards respectively, and to the extent to which they do so, their authority shall supersede the authority of general meetings and Boards respectively save only that it shall not be competent to the Governing Directors to determine by their own authority any matter which by the Statute is required, to be determined by special resolution, and this Article is fundamental.

XIX.—BOARDS AND COMMITTEES.

Article 106. Boards shall be held when the Governing Directors or them failing the Directors think fit.

Article 107. An Extraordinary Board may at any time be called by any one Governing Director or any two other Directors by at least two days notice in writing to the Directors.

Article 108. The quorum of every Board shall be one Governing Director or three other Directors.

Article 109. The Board may adjourn at pleasure for such time and to such place as the Governing Directors, or them failing, the other Directors present, determine, but not for more than one month.

Article 110. Mr. John Crossley, while a Governing Director, or him failing, Mr. Joseph Crossley, while a Governing Director, or him failing, Sir Francis Crossley, while a Governing Director, shall be the chairman of the Directors, and this Article is fundamental.

Article 111. Failing the Governing Directors, the Directors at the first Board after every yearly election of Directors shall elect a chairman of the Directors for the year ending with the next yearly election of Directors.

Names.

CROSSLEY—*cont.*

Article 112. Where the chairmanship becomes vacant during any year the first Board, after notice to the Directors of the vacancy, shall elect a chairman for the rest of the year.

Article 113. In every case of the absence from the Board of the chairman a temporary substitute for the chairman shall be appointed by the Board.

Article 114. The procedure of the Board shall be regulated by the Governing Directors, and, so far as their regulations do not extend, then by the standing orders of the Board, and in other respects as the Directors present think fit.

Article 115. Every question at a Board shall be determined by the Governing Directors, and them failing, then by a majority of the votes of the Directors present and qualified to vote thereon, and in case of an equality of votes the acting chairman thereat shall have a second or casting vote.

Article 116. Except as regards the Governing Directors no Director shall vote on any question in which he has an interest not in common with the interests of the shareholders at large, and if he vote thereon his vote shall not be counted.

Article 117. The Board may appoint and remove a managing committee and such other committees of the Directors as the Board think fit; and may determine and regulate their quorum, duties, and procedure, and may delegate to them such of the powers of the Board as the Board think fit, except power to make calls. And every committee shall keep minutes of their proceedings and report them from time to time to the Board.

XX.—POWERS AND DUTIES OF THE BOARD.

Article 118. Subject and without prejudice to the authorities of the Governing Directors, the Board shall be entrusted with and exercise and perform the following powers and duties (that is to say):—

(*a*) The general conduct and management of the business of the Company.

(*b*) The appointment and removal, and the determination of the duties and salaries of the secretary, clerks, agents, and servants of the Company, and the securities to be taken from them respectively.

(*c*) The appointment and removal of the solicitors and bankers.

(*d*) The instituting, conducting, defending, compromising, and abandoning of legal proceedings by and against the Company and the Directors and officers of the Company as such Directors and officers.

(*e*) The insuring against loss and damage by fire or at sea of the insurable property of the Company, and either by means of an insurance fund formed by the Company or otherwise as the Board think fit.

(*f*) The borrowing of moneys and entering into contracts for the Company, and contracting on behalf of the Company of such debts and liabilities as the Board find requisite in transacting the business of the Company.

(*g*) The making and giving of receipts, releases, and other discharges for moneys payable to the Company, and for the claims and demands of the Company.

(*h*) The compounding of any debts due to the Company, and of any claims and demands of the Company.

(*i*) The referring of any claims and demands of and against the Company to arbitration, and the performing and observing, or, if requisite, contesting of the awards thereon.

(*j*) The acting on behalf of the Company in all matters relating to bankrupts and insolvents.

(*k*) The investing and depositing of the paid-up capital, and other moneys received by the Company, in or upon such securities and investments, and in such manner respectively authorized by these presents, as the Board from time to time approve.

(*l*) The keeping of proper accounts, on the principle of double entry, in cash book, journal, and ledger, of the receipts, credits, payments, liabilities, profits, losses, property, and effects of the Company.

(*m*) The yearly stock-taking.

(*n*) The making up of the accounts to the first Saturday in the month of December in every year.

Names.

CROSSLEY—*cont.*

(*o*) The procuring of the accounts to be duly audited yearly in accordance with these presents.

(*p*) The making to every ordinary meeting of a full report of the affairs and prospects of the Company, including all such details as are proper, and sufficient to explain the accounts.

(*q*) The making of calls on the shareholders.

(*r*) The accepting of payments in advance of calls, and the determining, where not otherwise provided for by these presents, of the terms and mode on and in which the payments shall be accepted.

(*s*) The recommending for the approval of general meetings of the matters to be determined by special resolution.

(*t*) The keeping of the Company's registers.

(*u*) The authorizing of the use of the Company's seal, but so that every instrument to which the seal is affixed, and which is not signed by the Governing Directors, be signed by at least two of the Directors.

(*v*) The providing for the safe custody of the Company's seal.

(*w*) The doing of all things requisite for compliance with the requirements of the Statute.

(*x*) The controlling, managing, and regulating in all other respects, except only as is by these presents otherwise expressly provided for, of all other matters relating to the Company and the business and affairs thereof.

Article 119. Subject and without prejudice to the authorities of the Governing Directors, the Board shall, in addition to those powers and duties, exercise and perform all such other powers and duties as by the Statute and these presents respectively, are directly or by implication conferred or imposed on Directors.

Article 120. Subject and without prejudice to the authorities of the Governing Directors, the Board may, in all other respects, exercise all the powers of the Company, except as to such matters as by the Statute or these presents are directed to be transacted by general meetings, and the exercise thereof by the Board shall be subject to the control of extraordinary meetings; but not so as to render invalid anything lawfully done by the Board before any resolution thereon of an extraordinary meeting.

Article 121. Every account of the Board, when audited and approved by a general meeting, shall be conclusive, except as regards any error discovered therein within two months next after the approval thereof; and whenever such error is discovered within that period, the account shall be forthwith corrected, and thenceforth shall be conclusive.

Article 122. All things done by, or by the authority of, the Governing Directors, or of the Board, or any Committee purporting to be appointed by the Governing Directors, or by the Board, or by any person acting as a Director, or as a Member of a Committee purporting to be so appointed, or by any persons or person to whom any powers purporting to be delegated by the Governing Directors or the Board, shall, notwithstanding its being afterwards discovered that there was any defect in the nomination, election, or appointment, or any want of qualification of any of the Directors or Members of the Committee, or any defect in the delegation of powers, be as valid as if all the Directors and Members of the Committee were duly qualified, and nominated, elected, or appointed, and the powers were duly delegated respectively.

XXI.—Minutes of Proceedings.

Article 123. Minutes of the proceedings of every general meeting, and of every Board, and of the attendance of the Directors at Boards, shall be kept in accordance with the Statute.

Article 124. The minutes of the proceedings of the Board may, when the Board think fit, be sealed with the Company's seal, so as to give effect to them as proceedings of the Company.

XXII.—Auditors.

Article 125. A firm of accountants, or any person, not necessarily shareholders, shall be appointed by every ordinary meeting to be the Auditor for the succeeding year.

Article 126. The Auditor shall audit the accounts of the Company in accordance with these presents.

Names.

CROSSLEY—*cont.*

Article 127. Any occasional vacancy in the office of Auditor shall be supplied by an extraordinary meeting called for the purpose.

Article 128. At least twenty-one days before the day for every ordinary meeting there shall be delivered by the Board to the Auditors the yearly accounts and balance sheet to be produced to the meeting, and the Auditors shall receive and examine them.

Article 129. Within ten days after the receipt by the Auditors of the accounts and balance sheet, they shall either confirm them and report generally thereon, or if they do not see proper to confirm them, shall report specially thereon, and shall deliver to the Board the accounts and balance sheet with the report of Auditors thereon.

Article 130. Three days before every ordinary meeting a printed copy of the accounts and balance sheet audited, and the Auditors' report thereon, shall be sent by the Directors to every shareholder registered as resident in the United Kingdom, in accordance with his registered address.

Article 131. At every ordinary meeting the Auditors' report shall be read to the meeting with the Directors' report.

XXIII.—DIRECTORS AND OFFICERS.

Article 132. The Directors and Auditors and other officers shall be indemnified by the Company from all losses and expenses incurred by them in or about the discharge of their respective duties, except such as happen from their own respective wilful act or default.

Article 133. No Director or officer shall be liable for any other Director or officer, or for joining in any receipt or other act for conformity, or for any loss or expense happening to the Company, unless the same happen from his own wilful act or default.

Article 134. The accounts of any officer may (except as is otherwise provided by these presents) be settled and allowed, or disallowed, either wholly or in part by a Board.

Article 135. An officer becoming bankrupt, or publicly insolvent, or compounding with his creditors, shall thereupon be disqualified from acting as, and shall cease to be an officer. But until an entry of the disqualification be made in the minutes of the Board, his acts in his office shall be as effectual as if he acted as a qualified officer.

Article 136. The Board shall, from time to time, appoint some person who shall keep the records, registers, books, and papers of the Company, but under the control of the Governing Directors, or them failing of the Board, and shall allow between the hours of ten in the forenoon and twelve at noon, such inspection of the register of shareholders as is prescribed by the Statute, so as every shareholder or other person, before inspecting it, sign his name in a book kept for the purpose, and shall allow before every ordinary meeting such inspection of any of the books of account of the Company as the Governing Directors, or them failing, the Board appoint, and shall not allow any other inspection of any of the records, books, or papers.

Article 137. The seal shall only be affixed with the authority of the Governing Directors, or any two of them, or of the Board.

XXIV.—SHARES.

Article 138. Except as is otherwise provided by these presents every share shall be indivisible.

Article 139. The shares shall be numbered in arithmetical progression, beginning with number 1.

Article 140. Shares may be purchased by the Company as provided by these presents.

Article 141. The Company shall not be bound by or recognise any equitable contingent future or partial interest in any share, or any other right in respect of a share, except an absolute right thereto in the person from time to time registered as the holder thereof, and except also as regards any parent, guardian, committee, husband, executor or administrator, or any assignee of a bankrupt, or trustee of the estate of an insolvent, his respective right under these presents to become a shareholder in respect of or to transfer the share.

Article 142. The Company shall have a first and permanent lien and charge available at law, and in equity on every share of every person who is the holder or one of several joint holders thereof, and on all dividends from time to time payable thereon for all monies from time to time

Names.

CROSSLEY—*cont.*

due from him, either alone or jointly with any other person, whether a shareholder or not to the Company, while he is the registered holder, or one of the registered holders of the share.

XXV.—TRANSFER OF SHARES.

Article 143. Transfers of shares shall be effected by an instrument in such form as the Board from time to time prescribe.

Article 144. Until the Board otherwise prescribe, the instrument of transfer shall be in the following form, and under the respective hands and seals of the transferor and transferee, that is to say :—

"I A. B. of , a shareholder
" of John Crossley and Sons, Limited, in consideration of
" paid to me by C. D.
" of hereby transfer Shares of the
" capital of the Company, numbers
" and all my right and interest in and to the same to (him).
" subject to the conditions on which I now hold the same, and
" I, C. D. accept the same, subject to those conditions.
" As witness our respective hands and seals this
" day of A. D. 18

Article 145. The register of transfers shall be closed during the four teen days next before every ordinary meeting.

Article 146. A parent or guardian, committee, husband, executor, or administrator of an infant, lunatic, idiot, female, or deceased shareholder, or an assignee of a bankrupt, or the trustee of the estate of an insolvent shall not, as such, be a shareholder.

Article 147. Any such parent, guardian, committee, husband, executor, or administrator may transfer any share of the incapacitated or deceased shareholder, or become a shareholder in respect thereof, after producing to the Board such evidence of his title as reasonably satisfies them, and an entry of the evidence shall be made in the minutes of their proceedings.

Article 148. The assignee of a bankrupt or trustee of the estate of an insolvent shareholder may transfer any share of the bankrupt or insolvent after producing to the Board such evidence of his title as reasonably satisfies them, and an entry of the evidence shall be made in the minutes of the proceedings.

Article 149. A transfer of a share shall not be made by any person until after he has given to the Directors, or left at the office at least seven days' notice in writing of his desire to make the transfer, and of the number of every share desired to be transferred, and of the name, residence, and description of the proposed transferee, and a fee of sixpence for every share transferred shall be paid by the transferee prior to the registration of such transfer.*

Article 150. A transfer of a share shall not be made without the approval by the Governing Directors, or them failing by the Board of the proposed transfer.

Article 151. If the Board do not, within fourteen days after delivery of the notice of the desire to transfer a share, give to the shareholder desiring to make the transfer notice in writing that the proposed transfer is not approved, then it shall be deemed that is is approved.

Article 152. If the Board within the fourteen days give the notice of the disapproval, then they shall, if the shareholder desiring to make the transfer by notice in writing delivered to the directors or left at the office so require, either purchase for the Company or find a person to purchase the share at the market price thereof, or if the Board fail to do so within seven days after being so required by the shareholders, then it shall be deemed that the proposed transfer is approved.

Article 153. The Governing Directors shall have the option of purchasing the share.

Article 154. The market price of the share shall, in case of difference, be ascertained by the certificate of the Chairman of the Stock Exchange, London, or that failing, then by arbitration.

Article 155. An entry shall be made in the minutes of the proceedings of the Board of the approval or disapproval of the proposed transfer.

* The fee payable on transfer of shares is varied by resolutions of extraordinary meetings. *See page 53.*

Names.

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XXVI.—SHAREHOLDERS.

Article 156. The registered shareholders, and no others, shall be the members of the Company.

Article 157. A person shall not be registered as the holder of a share, unless at the time of being so registered he has signed the memorandum of association of the Company, or a printed or written copy thereof, or these Articles of Association, or a printed or written copy thereof, or has by writing under his hand, delivered to the Governing Directors or the Directors, or left at the office to be kept with the records of the Company, accepted, or agreed to accept the share.

Article 158. The signing of the memorandum of association, or a printed or written copy thereof, or these Articles of Association, or a printed or written copy thereof, or the written acceptance of, or agreement to accept a share, shall, for the purposes of the Statute, and these presents respectively, by an agreement to become a shareholder, and be entered on the register of shareholders.

Article 159. A person shall not be registered as the transferee of a share until he has left the instrument of transfer of the share executed as required by these presents, at the office, to be kept with the records of the Company, but to be produced on every reasonable request, and at the expense (if any) of the transferor or the transferee, or his respective representatives; but in any case in which in the judgment of the Board this Article ought not to be insisted on, they may dispense with it.

Article 160. If and when the Board so require, every shareholder shall name to the Secretary a place of address in the United Kingdom, to be registered as his place of residence, and the plabe so from time to time registered shall, for the purposes of the statute and these presents respectively, be deemed his place of residence.

Article 161. Every notice to a shareholder shall be sufficient if it be signed by a Director or by the Secretary, if and when appointed and sent by post or otherwise to the registered address of the shareholder, and if he be then dead, and whether or not the Company have notice of his decease that service of the notice shall for all purposes of the statute and these presents respectively, be deemed sufficient service thereof on his heirs and executors, and administrators, and every of them.

XXVII.—CERTIFICATE OF SHARES.

Article 162. The certificates of shares under the seal shall be signed by two Directors.

Article 163. Every shareholder shall be entitled to one certificate for all his shares, or to several certificates each for a part of his shares, every certificate specifying the number of the shares and the amount paid up thereon.

164. If any certificate be worn out or destroyed, or lost, it may be renewed on production to the Board of such evidence as satisfies them of its being worn out or destroyed, or lost, or in default of the evidence on such indemnity as the Board deem requisite being given, and an entry of the evidence or indemnity shall be made in the minutes of their proceedings.

XXXVIII—DIVIDENDS.

Article 165. The dividends on the original capital from time to time paid up shall be the dividends determined on, as expressed in the introduction to these Articles of Association.

Article 166. All dividends on shares shall be declared by the ordinary meetings, and shall be made only out of clear profits of the Company, and (but without prejudice to any preferential or guaranteed dividend) no dividend shall exceed the sum determined by the Governing Directors, or them failing, recommended to the meeting by the Board.

Article 167. But in order to the equalization of dividends, advances from time to time made in accordance with these presents out of the reserved fund may be applied in payment thereof.

Article 168. When the profits of the Company permit, and except when the Governing Directors, or failing them the Board, otherwise determine, there shall be a dividend every half year.

Artice 169. If and whenever any bonus on shares is declared out of the profits, and whether alone or in addition to any dividend thereon, the

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bonus shall be for all purposes whatsoever, whether of these presents or of the beneficial enjoyment of the bonus or otherwise, be deemed to be dividend on the shares.

Article 170. Every dividend forthwith after it is declared shall be paid to the shareholders whose registered addresses are in the United Kingdom, by drafts on the bankers, to be delivered or sent by the Board to the shareholders, and to shareholders whose registered addresses are not in the United Kingdom, in such manner as the Board think is best adapted to insure the absence of all avoidable delay in the receipt thereof.

Article 171. Provided that where any shareholder is in debt to the Company all dividends payable to him, or a sufficient part thereof, may be applied by the Company in or towards satisfaction of the debt.

Article 172. Where several persons are the joint holders of a share the receipt of any one of them shall be a good discharge to the Company for any dividend payable thereon.

Article 173. All dividends on any share not having a registered owner entitled to require payment thereof to himself shall remain in suspense until some person be registered as the holder of the share.

Article 174. Provided that all dividends remaining for three years after the declaration thereof unclaimed by some person entitled and competent to receive and give a valid receipt for the same shall at the end of that period cease to be payable and be added to the reserved fund, but in special cases in which the Board think that they ought not to insist on this Article they may remit the forfeiture.

Article 175. Unpaid dividends shall never bear interest as against the Company.

XXIX.—CALLS.

Article 176. All calls in respect of shares shall be made at the discretion of the Board, except that the three instalments mentioned in the fourth paragraph of the introduction to these presents shall be taken to be, and in all respects treated as, calls payable on the three respective days in such paragraph particularly mentioned, and to carry with them all the responsibilities and liabilities by these presents declared to affect calls, and this Article is fundamental.

Article 177. A call shall be deemed to be made on the day on which the resolution authorizing it is signed by the Governing Directors or passed by the Board.

Article 178. No call shall exceed 2*l.* a share, or be made payable within three months of the day on which a previous call was made payable.

Article 179. The joint holders of a share shall be severally, as well as jointly, liable to the payment of all calls in respect thereof.

Article 180. When a call is made, twenty-one days's notice of the time and place of payment thereof shall be given to every shareholder liable to the payment thereof.

Article 181. After seven days' non-payment of a call in respect of any share the Board may sue the defaulting shareholder for the amount unpaid, with not exceeding 10*l.* per centum per annum interest thereon from the day originally appointed for payment thereof

Article 182. A shareholder shall not vote or exercise any privilege as a shareholder while any call due from him is unpaid.

Article 183. The Board from time to time, as and when they think fit, may receive payment in anticipation of calls on such terms and conditions as they think fit, provided that the option of so paying be offered without preference to all the shareholders.

XXX.—FORFEITURE OF SHARES.

Article 184. After forty-two days' non-payment of a call in respect of any share (reckoning from the expiration of the second twenty-one days' notice of the call) the Board may declare the share forfeited for the benefit of the Company.

Article 185. When any person entitled to claim a share and not having entitled himself in accordance with these presents to be registered as the holder thereof, fails for six months after being required by notice from the Board so to entitle himself, the Board forthwith after the expiration of that period may declare the share forfeited for the benefit of the Company.

Article 186. The shares of any shareholder who directly or indirectly carries on, commences, supports, or threatens any action, suit, or other

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CROSSLEY—*cont.*

proceeding at law or in equity against the Company, or against the Directors, or any of them in their capacity of Directors (excepting only any proceedings for recovering payment of any debt due to him from or any claim by him against the Company the amount or existence of which is not disputed, or for compelling any arbitration, or enforcing any award under these presents), may (and notwithstanding the pendency of any such proceeding and whatever be the ground of any such proceeding) be on the determination of the Governing Directors, or sanction of a special resolution absolutely forfeited for the benefit of the Company, and this Article is fundamental.

Article 187. In every such case of forfeiture the Company shall within fourteen days after the market value of the share at the time of forfeiture thereof is ascertained pay to the registered holder of the share the full market value thereof, the value in case of difference to be ascertained by arbitration, and this Article is fundamental.

Article 188. The forfeiture of a share shall involve the extinction at at the time of the forfeiture of all interest claims and demands in and against the Company in respect of the share and other rights incident to the share, except only such of those rights as by these presents are expressly saved.

Article 189. The forfeiture of a share shall be subject, and without prejudice, to all claims and demands of the Company for calls in arrear thereon (if any) and interest on the arrears, and all other claims and demands of the Company against the holder of the share when it was forfeited, and to the right of the Company to sue in respect thereof.

Article 190. But the Company shall not so sue unless they at such time and in such manner as the Board think reasonable, first sell the forfeited share and the net proceeds thereof are less than the amount of their claim, and shall then sue only for the balance unsatisfied by the net proceeds.

Article 191. Forfeited shares may at the discretion of the Board be sold or disposed of by them, or except where a sale thereof is by these presents expressly required be absolutely extinguished, as they deem most advantageous for the Company.

Article 192. The net moneys arising from the sale of forfeited shares, and the dividends declared on forfeited shares after the forfeiture and before the sale or extinction thereof, shall be carried to the reserved fund.

Article 193. Provided that the forfeiture of a share may at any time within twelve months after the forfeiture thereof is declared, be remitted by the Board, at their discretion, on payment by the defaulter of all sums due from him to the Company, and all expenses occasioned by non-payment thereof, and of such a fine as the Board deem reasonable, but the remission shall not be claimable as a matter of right.

Article 194. The forfeiture of a share shall not prejudice any right to any dividend already declared thereon.

Article 195. The sales and other dispositions of forfeited shares may be made by the Board at such times and on such terms and conditions as they think fit.

Article 196. A certificate in writing under the Company's seal and under the hands of two Directors, and countersigned by the Secretary that a share has been duly forfeited in pursuance of these presents, and stating the time when it was forfeited, shall in favour of every person afterwards claiming to be a holder of the share be conclusive evidence of the facts so certified, and an entry of the issue of every such certificate shall be made in the minutes of the proceedings of the Board.

XXXI.—PURCHASE OF SHARES FOR THE COMPANY.

Article 197. Any share may be purchased by the Company from any person willing to sell it, and at such price not exceeding the then market value thereof, as the Board think reasonable.

Article 198. Provided that the Board shall not, without the sanction of a general meeting, apply for any such purpose any part of the revenue of the Company, other than revenue carried to the credit of the reserved fund.

Article 199. Shares so purchased may, at the discretion of the Board, be sold or disposed of by them, or be absolutely extinguished, as they deem most advantageous for the Company.

Article 200. Shares so purchased shall, until sold or extinguished, from part of the reserved fund; and the dividends declared thereon after the purchase and before the sale or extinction thereof, and the net moneys arising from the sale thereof shall be carried to the reserved fund.

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XXXII.—DISSOLUTION OF THE COMPANY.

Article 201. The dissolution of the Company may be determined on for any purpose whatsoever, and whether the object be the absolute dissolution of the Company, or the re-constitution or modification of the Company, or the amalgamation of the Company with any other Company, or any other object.

Article 202. The dissolution of the Company shall take place whenever it is determined on, as provided by these presents, and in accordance with the terms and conditions, if any, so determined on; and, except in the case of a winding-up by the Court under the Statute, the winding-up shall, unless otherwise determined on, be effected by the Board.

Article 203. Provided that no absolute dissolution of the Company, not being a winding-up by the Court under the Statute, shall take place if at or before the general meeting at which the special resolution to dissolve the meeting is confirmed, any of the shareholders enter into a binding and sufficient contract to purchase at par, or on such terms as are agreed on, the shares of all the shareholders who wish to retire from the Company, and make sufficient provision for their indemnity against the liabilities of the Company.

XXXIII.—ARBITRATION.

Article 204. If and whenever any difference arises between the Company on the one hand and any of the shareholders, their heirs, executors, administrators, or assigns on the other hand, touching the true intent or construction, or any of the incidents or consequences of these presents, or of the Statute, or touching anything to be then or thereafter done executed, omitted or suffered in pursuance of these presents, or of the the Statute, or touching the breach, or alleged breach, of any of the regulations of the Company, or any claim or demand by reason of any such breach or alleged breach, or otherwise relating to the premises, or to these presents, or to any of the affairs of the Company, every such difference, as well as every other matter which by these presents is directed to be referred to arbitration, shall be referred to arbitration in accordance with these presents, and this Article is fundamental.

Article 205. Every such arbitration shall be in accordance with the provisions on that behalf of the Statute.

Article 206. The submission to reference made by these presents may at any time be made a Rule of any Court of Law or Equity on the application of any party interested; and the Court at any time may remit the matter to the arbitrator or arbitrators or umpire, with any directions the Court think fit.

Article 207. Where in any arbitration any point of law arises, the arbitrator or arbitrators or umpire may take the opinion thereon of such counsel learned in the law as he or they shall think fit, and may adopt any opinion so taken.

Article 208. The arbitrator or arbitrators for the purposes of the arbitration shall have power to settle any terms of arrangement, and to determine any matters capable of being lawfully settled or determined by the mutual agreement of the parties in difference, and they respectively hereby delegate the power accordingly.

Article 209. Full effect shall be given under "The Common Law Procedure Act, 1854," and every or any other Act from time to time in force and applicable in that behalf to the provisions of these presents touching arbitration.

Dated this Eighteenth day of November, in the year of our Lord One thousand eight hundred and sixty-four.

Names, Addresses, and Description of Subscribers.

John Crossley, of Halifax, Carpet Manufacturer.
Joseph Crossley, of Halifax, Carpet Manufacturer.
Francis Crossley, of Halifax, Carpet Manufacturer.
Edward Crossley, of Halifax, Carpet Manufacturer.
Louis John Crossley, of Halifax, Carpet Manufacturer.
James Pardoe, of Halifax, Manager to the Messrs. Crossley.
George Dearden, of Halifax, Manager to the Messrs. Crossley.
Benjamin Musgrave, of Halifax, Chief Clerk to the Messrs. Crossley.

Witness to the above Signatures,
EDMD. MINSON WAVELL, Solicitor,
18th November 1864. Halifax.

Names.

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JOHN CROSSLEY AND SONS, LIMITED.

At an Extraordinary General Meeting of the Shareholders of the said Company held on the 27th day of March 1865,

The following special resolutions were passed:—

First.—In order to make better provision for carrying into effect the primary design on which the Company is founded, that is to say, the design of receiving the co-operation of persons associated with the business lately carried on by Messrs. John Crossley and Sons, and now carried on by the Company, and also in order to make better provision for cases where married women and minors have applied to be shareholders of the Company, it is hereby resolved as follows, that is to say, the Company may retain so many shares, not exceeding 5,000, as the Board think fit, and those shares shall be distinguished as "the retained shares."

Secondly.—The Company may also retain any additional number of shares they think fit, being shares for which married women have applied, and those shares shall be distinguished as "the shares retained for married women."

Thirdly.—The Company may also retain any further number of shares they think fit, being shares for which minors have applied, and those shares shall be distinguished as "the shares retained for minors."

Fourthly.—The Company shall provide three books, which shall be distinguished respectively as "the Register (No. 1) of the retained shares and "the Register (No. 2) of the shares retained for married women," and "the Register (No. 3) of the shares retained for minors."

Fifthly.—The three registers thall be wholly distinct from the other registers of the Company and shall be kept by the Board as they think fit for giving effect to these Resolutions, and shall be private registers of the Board, and shall be open to the inspection of every Director, but except with the authority of the Board no other person, whether a shareholder or not, shall have any right to be permitted to inspect any of the three registers.

Sixthly.—There shall from time to time be entered in the Register (No. 1) the name, address, and description of every person to whom the Board think fit that any of "the retained shares" should be allotted, but who if unable to pay up the amount thereof within the period in that behalf limited by the Company's Articles of Association, and also every sum from time to time paid to the Company in respect of those shares respectively.

Seventhly.—There shall from time to time be entered in the Register (No. 2) the name and address of every married woman who has heretofore applied for any of the shares and made any payment to the Company in respect thereof, but to whom the same have not been issued, and also (if known to the Board) the name and address and description of her respective husband, and also every sum from time to time paid to the Company in respect of those shares respectively.

Eighthly.—There shall from time to time be entered in the Register (No. 3) the name, address, and description of every minor who has heretofore applied for any of the shares and made any payment to the Company in respect thereof, and also (if known to the Board) the name, address, and description of the minor's father, or (if none or not known to the Board) the name, address, and description of the minor's mother (if any), and also every sum from time to time paid to the Company in respect of those shares respectively.

Ninthly.—In addition to those several particulars, there may be made in the three registers, or any of them, such other entries as the Board from time to time think fit.

Tenthly.—When the total sum of 10*l.* is paid to the Company in respect of any share entered in "The Register (No. 1) of the retained Shares," then (except as is otherwise provided by any of the resolutions following,) the Company shall allot and issue the share to the person for whom it appears by the last-named register that the share is intended, and shall register that person in the register of shareholders as the holder of the share, and shall issue to that person a proper certificate of the share.

Eleventhly.—When the total sum of 10*l.* is paid to the Company in respect of any share entered in "The Register (No. 2) of the Shares retained for Married Women," (except as is otherwise provided by any of the resolutions following,) the Company shall allot and issue the share to

Names.

CROSSLEY—*cont.*

such person or persons as shall be named and appointed for that purpose, by writing under the hand of the married woman for whom every such share shall be retained, with or without the consent of her husband; such writing to be in a form and attested in such a manner as the Board shall from time to time prescribe, and such person or persons shall, on signing the acceptance of such allotment or subscribing the Articles of Association in pursuance of sections 157 and 158 of the same Articles, be entered on the register of shareholders as the holder of the share, and be entitled to a proper certificate of such share.

Twelfthly.—But if before any share entered in "The Register (No. 1) "of the retained Shares" is so paid up in full, or is so allotted and issued, the person for whom it appears by that register that the share was intended, ceases to be associated with the Company's business, or is lawfully convicted of any crime, the Company, if the Board may think fit, may pay to that person, or to any other person whom the Board in their absolute discretion think fit to recognize as being fairly, and (whether or not legally) the representative or agent of that person, the market value (at the time of the payment) of the share, and may thereafter deal with and dispose of every such share as the Company think fit.

Thirteenthly.—And if before any share entered in any of the three registers is so allotted and issued, the person for whom it appears by the respective register that the respective share was intended, ceases to be associated with the Company's business, or is lawfully convicted of any crime, or dies, the Company, if and as the Board think fit, may either, when the total sum of 10*l.* is paid to the Compan y in respect of the respective share, or sooner, allot and issue the respective share to that person, his executors or administrators, or to any other person whom the Board, in their absolute discretion, think fit to recognize as being fairly and (whether or not legally) the representative or agent of that person.

Fourteenthly.—With respect to every share entered in "The Register "(No. 2) of the Shares retained for Married Women," and "The Register "(No. 3) of the Shares retained for Minors," if the total sum of 10*l.* be not paid in respect thereof on or before the first day of June, 1865, and with respect to every share entered in "The Register (No. 1) of the "retained Shares," the total sum of 10*l.* be not paid in respect thereof to the Company on or before the 1st day of June 1870, then the Company, at any time within four calendar months after those respective days, may pay to the person for whom it appears by the respective register that the respective share was intended, the market value (at the time of the payment) of the respective share, and may thereafter deal with and dispose of every such share as the Company think fit.

Fifteenthly.—So long as any retained share is entered in "The Register "(No. 1) of the retained Shares," and is not allotted and issued, or otherwise dealt with or disposed of in accordance with any of the preceding resolutions, or the market value thereof is not paid in accordance therewith, the Company shall pay to or for the person for whon it appears by that register that the respective share is intended dividends thereon, as if the share were paid up to the extent of 10*l.*, and were allotted and issued, and held by a registered holder thereof accordingly, but subject to a deduction in favour of the Company of interest at the rate of 5*l.* per centum per annum on so much (if any) of the nominal amount of the share as is the difference between the amount from time to time paid to the Company in respect of the share and 10*l.*

Sixteenthly.—So long as any share retained for a married woman is entered in the Register (No. 2), and is not allotted and issued or otherwise dealt with or disposed of in accordance with any of the preceding resolutions, or the market value thereof is not paid in accordance therewith, the Company shall pay to or for the woman for whom it appears by that register that the respective share is intended dividends on the amount from time to time paid to the Company in respect thereof.

Seventeenthly.—So long as any share retained for a minor is entered in the Register (No. 3), and is not allotted or issued or otherwise dealt with or disposed of in accordance with any of the preceding resolutions, or the market value thereof is not paid in accordance therewith, the Company shall pay to or for the minor for whom it appears by that register that the respective share is intended dividends on the amount from time to time paid to the Company in respect thereof.

Eighteenthly.—But if and when the Board think fit any dividends payable in accordance with the fourteenth, fifteenth, and sixteenth

Names.

CROSSLEY—*cont.*

resolutions respectively, instead of being paid to the person to whom in accordance therewith the same are to be paid may be paid to any other person whom the Board in their absolute discretion think fit to recognize as fairly and (whether or not legally) the representative or agent of that person.

Nineteenthly.—The receipt of any person to whom the Company pay any money in accordance with any of the preceding resolutions shall fully and effectually release the Company for the money so paid, and for all liability, claims, and demands whatsoever in respect thereof; and the Company shall not be bound to inquire as to the application thereof, and every person claiming to be interested in any money so paid shall claim the same only against the person to whom it is so paid.

Twentiethly.—No person whose name appears in any of the three registers shall in respect of any share referred to in the respective register, and not issued and allotted to him or her, be a shareholder of the Company, or entitled to vote to be present at any meeting of the Company, or to exercise or enjoy any other privilege of a shareholder of the Company, or to inspect any of the books of the Company, or to call for an account from the Company; but every such person shall in respect of the respective share be entitled only to the privileges intended to be secured to him or her by these resolutions.

Twenty-firstly.—The Company from time to time may make, alter, and repeal all such rules and regulations for carrying into effect these resolutions as the Board in their discretion from time to time think fit, and the rules and regulations from time to time shall while in force be binding and conclusive on the Company and all persons from time to time interested under or affected by these resolutions or any of them.

And it was further resolved as follows, that is to say:—

Twenty-secondly.—Moneys of the Company not immediately applicable for any payment to be made by the Company may be employed by the Board in discounting approved bills of exchange and promissory notes.

And it was further resolved as follows, that is to say:—

Twenty-thirdly.—The preceding resolutions shall be regulations of the Company, and shall accordingly over-ride such, if any, of the now existing regulations of the Company as are repugnant thereto or inconsistent therewith.

And at an extraordinary general meeting of the shareholders of the said Company held on the 19th day of April 1865,

The following special resolution was passed:—

"That each and every of the special resolutions, 23 in number, adopted "at an extraordinary general meeting of the shareholders of this Com- "pany held on the 27th day of March last, and entered in the Director's "Minute Book of shareholders' meetings now read, be approved and "confirmed by this meeting."

And at two extraordinary general meetings of the shareholders of the said company, held respectively on the 19th day of January 1866, and the 14th day of February 1866,

The following special resolution was passed and confirmed:—

"That Article 149 of the Articles of Association of the Company, by "which a fee of sixpence for every share transferred is now payable by "the transferree, be altered so far only as to restrict and limit such fee "to every transfer not exceeding ten shares in number, and that a sum "of five shillings shall be the maximum fee payable on the transfer of "shares in this Company."

MEMORANDUM.

On reference to the prospectus of this Company (copy of which we enclose) it will be observed that the Company was formed with "the "primary design of receiving the co-operation of parties associated with "the business," and the Directors claim by a novel, but very comprehensive scheme to have secured a spirit of harmony, and the material well-being and profit of their workpeople, clerks, managers, &c., &c.

Firstly, in the allotment of the shares of the Company, by giving a decided preference to applications from managers and operatives employed by them as promised in the prospectus, and in no case refusing any application of this kind, or allotting any less number of shares than were applied for.

Names.

CROSSLEY—*cont.*

Secondly, and principally, by various loans of money, amounting in the aggregate to no less than 56,150*l.*, to the managers, clerks, foremen, and workpeople, to enable them to take up what are termed in the Articles of Association retained shares in this Company, for which interest is charged at the rate of 5 per cent. per annum, and the several accounts credited with the dividends accruing from the shares thus allotted. These retained shares will pay themselves off on the 3rd February 1872, with 13*s.* 6*d.* per share over if we should continue to pay 20 per cent. per annum. Should we in future only pay 15 per cent. annum, they will pay themselves off on the 3rd August 1873.

It will thus be seen that an interest in the success and harmony of the Company is secured to all deserving parties in its employ, although they were or were not at the time in possession of funds of their own available for such a purpose. But to render the scheme perfectly clear, annexed is an accurate copy of the account of one of the foremen to whom ten shares were alloted on this principle, and from which it will be observed he was in the first place debited with the calls upon such shares, and since that time, with interest at five per cent. per annum on the balance of the accounts, and also credited with the dividends payable on such shares. By this account it will also be seen that he will on the 4th February 1867 have reduced the balance of the account against him to 80*l.* 15*s.* 6*d.*, which, deducted from the first debit of 100*l.* shows a profit of 19*l.* 4*s.* 6*d.*; and should he die the confidence of the public in the Company being such that the shares are now selling at a premium of 10*l.* per share, his widow or representatives would therefore realise, say,

	£	*s.*	*d.*
Premium on 10 shares 10*l.* each	100	0	0
Profit in account	19	4	6
Total	119	4	6

The large sum of 56,140*l.* thus advanced, it will be readily understood, has enabled the Directors to enlist the active energies of all parties necessary to ensure success, and they claim originality in this mode of securing the direct interest of the employés, and rejoice in being able to report that the system has more than realized their highest expectations.

BENJ. MUSGRAVE, Secretary.

P.S. Enclosed will also be found:—

JOHN CROSSLEY AND SONS, LIMITED.

Retained Share Ledger.

DR. — — Foreman. CR.

1864.		£	*s.*	*d.*	1865.		£	*s.*	*d.*
Dec. 1 -	To Calls, &c., upon 10 shares, Nos. 108900/9 -	35	0	0	June 1	By Dividend -	1	5	0
					Dec. 2 -	„ Balance - -	102	9	7
1865.									
March 1	„ Do. - -	30	0	0					
June 1 -	„ Do. - -	35	0	0					
		100	0	0					
„ „	„ Interest -	1	5	0					
Dec. 1 -	„ Do. - -	2	9	7					
		103	14	7			103	14	7
					1866.				
„ „	„ Balance - -	102	9	7	Feb. 3 -	„ Dividend -	7	8	9
1866.					Aug. 3 -	„ Do. - -	7	7	6
Dec. 1 -	„ Interest - -	4	12	1	Dec. 1 -	„ Balance -	92	5	5
		107	1	8			107	1	8
					1867.				
„ „	„ Balance - -	92	5	5	Feb. 4 -	„ Dividend -	12	5	10
1867.					„ „	„ Balance -	80	15	6
Feb. 3 -	„ Interest, 64 days - -	0	15	11					
		93	1	4			93	1	4
„ „	„ Balance - -	80	15	6					

Correct Abstract, BENJ. MUSGRAVE, Secretary.

Names.

CROSSLEY—*cont.*

2. Annual Reports of Company.
3. Prospectus of Company.

DOWLAIS IRON CO.

1. LETTER.

Dowlais House, Merthyr Tydvil,
January 26, 1867.

SIR,

IN reply to your circular of the 11th instant, I have the honour to enclose your forms duly filled up so far as they apply to the works of the Dowlais Iron Company.

These works are not Co-operative, and if they come under the establishments contemplated by the Imperial Minute, it is because they have for a very long time employed a very large number of work-people, to whose well-being, education, and intellectual improvement very considerable attention has been paid.

The quantity of finished iron manufactured is about 100,000 tons per annum, exceeding the manufacture in any other single work.

The quantity of coal raised for various purposes exceeds half a million tons per annum, and the number of work-people employed is about 8,500.

Although the establishment is above a century old, it is only during the last 50 years that its operations have been on a very large scale, but during that period it has been eminently successful, both commercially and in the management of its work-people, and that this continues to be the case is evident from the fact that there has been no serious dispute, with the slight exception, 13 years ago, of the colliers, since the times of 1831-32, when strong political excitement prevailed in the district, and produced the well-known Merthyr riots.

This continued good feeling may fairly be attributed to the liberal policy pursued by the company towards their work-people, both in matters of wages and of education.

We lay no claim to charity in these matters, but on the contrary consider it a merit that the policy pursued, while liberal towards the men, has been profitable as regards the company.

In concluding this statement, it is but fair to observe that the relations of the company with their workmen have been much simplified in matters other than the actual manufacture, by the orderly and religious habits of the people of the district, and their unusual capacity for self-government, as exhibited in their Sunday schools, chapels, and benefit societies.

I remain, Sir,
Your obedient servant,
G. T. CLARK,
Trustee.

Henry Cole, Esq., C.B.,
Secretary, &c.,
South Kensington Museum,
London, W.

2. Annual statement of forge and mill's men sick fund.
3. Dowlais school. Average attendance of children.

DOWLAIS SCHOOLS.

AVERAGE ATTENDANCE of CHILDREN for the last Nine Years.

Year.	Boys.	Girls.	Infants.	Pen-garuddu.	Gelly-faelog.	Night.	Roman Catholic.	Grand Total.
1857—58 -	248·4	202·6	290·3	—	374·6	292·6	90·1	1498·6
1858—59 -	256·4	237·2	382·7	—	347·9	153·4	125·4	1503·0
1859—60 -	289·6	284·5	447·4	—	337·3	163·6	125·5	1647·7
1860—61 -	308·0	251·1	501·1	—	373·4	260·3	133·5	1827·4
1861—62 -	314·8	256·9	542·2	—	360·7	264·7	164·1	1903·4
1862—63 -	321·2	280·0	593·7	—	420·5	242·6	230·0	2088·0
1863—64 -	323·6	301·5	476·5	—	383·0	180·5	272·4	1937·5
1864—65 -	305·7	295·8	495·2	—	441·0	138·6	273·4	1949·7
1865—66 -	302·0	281·5	520·5	48·3	396·5	123·0	279·1	1950·9

January 18, 1867. M. HINST.

Names.

DOWLAIS IRON CO.—*cont.*

4. Dowlais school reports from 1862 to 1866.
5. Dowlais savings bank.

STATEMENT of the DOWLAIS SAVINGS BANK.

Year ending November 1, 1866.

	£	s.	d.
Balance in hand November 1, 1865	12,882	15	11
Amount received from November 1, 1865, to November 1, 1866	5,558	6	2
Interest for one year	367	8	4
Total amount	18,808	10	5
Amount drawn out from November 1, 1865, to November 1, 1866	5,466	19	5
Balanee in hand November 1, 1866	£13,341	11	0

Number of Depositors.	This Year.	Last Year.
From 1*d.* to 1*s.*	328	292
„ 1*s.* to 5*s.*	272	337
„ 5*s.* to 20*s.*	185	192
„ 20*s.* to 5*l.*	244	232
Above 5*l.*	457	444
Total	1,486	1,497

Dowlais Iron Works,
January 21, 1867.

JOHN DAVIES, Secretary.

6. Rules and regulations to be observed by workmen.

RULES and REGULATIONS to be observed by the OWNERS, AGENTS, WORKMEN, and all others employed in or about the COLLIERIES of the DOWLAIS IRON CO.

General Rules to be observed in Coal and Ironstone Mines of the Coal Measures.

1st. An adequate amount of ventilation shall be constantly produced in all coal mines, or collieries and ironstone mines, to dilute and render harmless noxious gases, to such an extent that the working places of the pits, levels, and workings of every such colliery and mine, and the travelling roads to and from such working places, shall, under ordinary circumstances, be in a fit state for working and passing therein.

2nd. All entrances to any place not in actual course of working and extension, and suspected to contain dangerous gas of any kind, shall be properly fenced off, so as to prevent access thereto.

3rd. Whenever safety lamps are required to be used they shall be first examined and securely locked by a person or persons duly authorized for this purpose.

4th. Every shaft or pit which is out of use, or used only as an air-pit, shall be securely fenced.

5th. Every working and pumping pit or shaft shall be properly fenced when operations shall have ceased or been suspended.

6th. Every working and pumping pit or shaft where the natural strata under ordinary circumstances are not safe, shall be securely cased or linked, or otherwise made secure.

7th. Every working pit or shaft shall be provided with some proper means of communicating distinct and definite signals from the bottom of the shaft to the surface, and from the surface to the bottom of the shaft.

8th. All underground self-acting and engine planes on which persons travel are to be provided with some proper means of signalling between the stopping places and the ends of the planes, and with sufficient places of refuge at the sides of such planes at intervals of not more than 20 yards.

9th. A sufficient cover overhead shall be used when lowering or raising persons in every working pit or shaft where required by the inspectors.

10th. No single-linked chain shall be used for lowering or raising persons in any working pit or shaft, except the short coupling chain attached to the cage or load.

11th. Flanges or horns of sufficient length or diameter shall be attached to the drum of every machine used for lowering or raising persons.

12th. A proper indicator to show the position of the load in the pit or shaft, and also an adequate break, shall be attached to every machine worked by steam or water power used for lowering or raising persons.

13th. Every steam boiler shall be provided with a proper steam gauge, water gauge, and safety valve.

14th. The fly-wheel of every engine shall be securely fenced.

15th. Sufficient bore holes shall be kept in advance, and if necessary on both sides, to prevent inundations, in every working approaching a place likely to contain a dangerous accumulation of water.

Special Rules for the Conduct and Guidance of, and to be observed by all Persons acting in the Management of or employed in or about the Collieries of the Dowlais Iron Company.

1st. The colliery manager has the responsible charge and direction of the mine and works, and of all persons employed in or about the same. He has full power and is required to carry out whatsoever may be necessary for safety, and for rendering effec-

Names.

DOWLAIS IRON CO.—*cont.*

tive the general and special rules. (A printed copy of such general and special rules shall be supplied to all persons employed in or about the same who shall apply for such copy.) He is to take care that there are a sufficient number of competent agents and others to superintend the mine, machinery, and workmen; and he is to see that they understand and are attentive to their respective duties. He shall see that a sufficient quantity of timber and materials is provided and kept on the premises. He is to lay out the ventilation of the mine. He is to direct the places where, and the manner in which naked lights and safety lamps are to be used; and in which blasting is to be permitted.

Engineers, Enginemen, and others.

2nd. The chief engineer shall see that proper and adequate machinery and materials are provided and kept in repair. He shall fix self-acting gates at the top of each shaft.

3rd. The engines and machinery, pit-ropes and chains, with the several bolts, shackles, springs, cages, and signals, used for raising and lowering of men, are to be carefully examined every day, by some person specially appointed for that purpose by the colliery manager or chief engineer. If found faulty in any respect, he is immediately to report the same to the manager or chief engineer. And if any defect be found in either rope or apparatus connected therewith, the banksmen and hitchers are to prevent the use of that rope by the workmen until the requisite repair or renewal shall be made.

The engineman shall not, in any case, move a cage in the pit without direct order from the banksman or hitcher.

The engineman is to acquaint himself with the signals, and if he suspects any error as to a signal, he is to stop the engine or keep it at rest until a properly understood signal shall be given.

The engineman shall not on any account leave the handles while the engine is in motion, and no other person is to be taught the duty of engineman, nor allowed to touch the handles of the engine without authority from the manager or engineer.

The stoker is to be under the control of the engineman.

The engineman is not to allow an apprentice to be left in charge of the engine, nor to move it except in his presence, until such apprentice shall have obtained a certificate of competency from the manager or engineer.

The engineman shall work the carriages once up and down the pit every morning before the men descend, in order to see that there is no obstruction in the pit, and that all is right.

4th. The safety valves are to be particularly attended to by each engineman during his shift or turn, and are not to be meddled with by any person without the authority of the manager or the engineer.

5th. The valves to be properly weighted by the manager or engineer.

It is the duty of the engineer to see that the steam boilers are cleaned as often as may be necessary.

6th. The engineman is to see that the boiler feed is so regulated as to maintain an adequate supply of water in the boilers, and that the water and steam gauges are in good working order.

7th. Should any default or derangement of the engine or machinery, or apparatus connected therewith, occur, the same is to be immediately reported by the engineman to the manager or engineer.

The engineman is on all occasions to let down and draw up the workmen and boys with the greatest care.

No splice or joint shall be attached to any rope used for winding persons, without the special directions, in writing, from the chief engineer.

Banksmen, Hitchers, and others.

8th. No person is allowed to descend the pit without permission from the proper authority. It is the duty of the banksman, or in his absence the engineman, to see that this rule is attended to, and that no workman or other person goes down in a state of intoxication.

No ale, spirits, or other intoxicating drink shall be taken down or consumed in the pit, without the permission of the officer in charge, who is only to give such permission in cases of necessity.

The number of persons allowed to descend or ascend the pits at one time shall not exceed 10, with the exception of No. 1 pit, Vochrhiw, where the number of men to be allowed to descend or ascend shall not exceed 16, and the banksman and hitchers shall be responsible in case any greater number either descend or ascend at one time during the ordinary working hours.

9th. When men are to descend, the agreed signals are to be given by the hitcher only.

Riding on full trams is not allowed, and no person is to ride on the cage top, unless they are in both cases permitted to do so by the proper authorities.

Workmen are not permitted to take their gear or tolls with them in the cage, all gear or tools being laid safely on the bottom of the cage, or placed carefully in a tram; and no timber, coals, stones, or materials shall under any circumstances ascend or descend whilst men are riding in the pit.

The banksmen and hitchers are to be responsible for enforcing these regulations.

10th. While persons are riding in the pit during ordinary working hours, a banksman is to remain next to the signal rope, to signal the engineman in the event of an accident.

The banksman shall report to the engineman any defect or source of danger, and to the colliery manager any breach of the rules.

The cages made use of to have covers of sheet iron or wood, for the protection of persons ascending or descending the pit.

The banksmen and hitchers are to have a clear understanding as to signals, and work them themselves.

In the absence of the hitcher, the overman, deputy, or other authorized person shall work the signals.

Names.

DOWLAIS IRON CO.—*cont.*

When the pit is being repaired, the banksmen, hitchers, and persons employed in the pit are to have a clear and distinct understanding as to the signals, in order that accidents may be avoided.

Banksmen and hitchers are to change at the pit when the pit is worked double turn.

Overmen, Deputies, Pitmen, and other Underground Agents.

11th. In the absence of the colliery manager, the overman shall have full power and authority over all persons employed in and about the levels and pits under his care, and acting under and according to the orders of the manager, shall see that each man understands his duties.

He shall be responsible for their efficiency, as well as the safety of the mine.

He and his deputies shall obey and enforce the rules, and not suffer a breach of any of them to pass without reporting it to the manager.

12th. The overman or his deputies shall examine carefully every working-place of the pits, levels, and workings, and the travelling roads to and from such working-places, every morning (before the workmen enter the mine, or leave an appointed place near the bottom of the pit,) to ascertain that such working-places are in a fit state for working and passing therein.

They shall mark with chalk the face of every working-place.

They shall place cross timbers thus ×, at the entrance of every working-place they may find in an unfit state.

They shall also caution the men against entering such unfit places when they return from the examination of the mine to the place appointed for the men to wait their return.

13th. When two turns are worked, the night men shall not enter until they have communicated with the overman.

14th. The overman and his deputies shall maintain during all working hours a careful supervision in the airways, working-faces, and travelling roads, over all things connected with the ventilation, lighting, timbering, and the general or special safety of the workmen.

They shall see that all roads are kept in a fit state by the removal, or otherwise, of overhanging stones, or coal, or loose sides, and that the timbers are set in the best manner in all places where they are required; that sprags, or short props are used; and that each working-place is examined as often as may be desirable, but not less than once in each turn.

The overman shall stop every working-place that may, for want of timber, be in an unfit state to work in.

15th. The overman, carpenter, or pitman shall examine the guides daily, and see that no loose coal or stones remain on the bearers, curbs, or landings.

He shall take care that all openings into the pits and underground pits are properly fenced.

He shall occasionally accompany the deputy when he goes his rounds in the morning, in order to see that he is sufficiently careful and efficient in the performance of his duty.

16th. The overman or his deputies shall examine the main air courses every day, and they shall travel at least once in every week, through the whole of the air-ways necessary for the efficient ventilation of all the working-places; and they shall carefully examine daily the edges of all the old working abutting on working-places or travelling roads.

They shall see that the air-ways are kept in good repair, and of a sufficient size for the full and efficient ventilation of the mine.

They shall direct air-ways to be driven, stoppings made, doors fixed, brattices placed within eight yards of the face of all working-places in the Upper four-feet, Big coal, Ras Lace, and Lower four-feet coals, with the exception of working to the deep and all free draining levels. In all cases brattices must be used when required, and kept in repair, so as to make every working-place, under ordinary circumstances, to be in a fit state to work in.

They shall remove the men from any part of the works which may have become unfit to work in, except so many as may be required to restore such place to a fit state for working therein.

They shall see that the underground stables are kept clean, and provide, if possible, that the air passing through the stables shall not mix with the in-take air currents.

17th. In approaching old workings and other reservoirs which may contain water, the overman shall see that borings are kept in advance, and on each side, sufficiently far to discover its existence, before the barrier of coal has been rendered too weak.

18th. The overman or his deputies shall see that the main stoppings be built with the view of resisting an explosion of firedamp, and shall frequently examine them, and keep them air-tight.

They shall see that all doors for ventilation shall be so hung that they will not stand open of themselves; that all main doors be double, and no main door be left without a doorkeeper.

19th. The overman shall report to the manager and the deputies to the overman all accidents, dangers, or defects which may occur in the mine.

The overman shall suspend any and all operations attended with unusual risk, until he shall have received special instructions thereon from the manager; and shall stop the working and use of any pit, machinery, rope, or place which may appear not safe, until the removal of the defect.

The overman or his deputies shall see that all entrances to any place not in actual course of working and extension, and suspected to contain dangerous gas of any kind, be properly fenced off, so as to prevent access thereto.

20th. All accumulations of firedamp shall be removed with great care by the overman or his deputies, and without delay, but in no case until the men are got out of danger.

Names.

DOWLAIS IRON CO.—*cont.*

At the close of each shift or turn of men the overman or his appointed deputy shall see that their lights are extinguished, and that the doors are closed and secured.

In every place where several men are at work, the overman shall select one of them to take charge of and be more especially responsible for the safety of the working place.

The overman shall not allow any incompetent or careless person to work by himself at any operation involving risk.

The overman shall not allow any boy under 12 years of age to enter the mine without first obtaining the authority of the manager.

Workmen and others.

21st. Every underground workman must make himself acquainted with the rules of the colliery, and obey them, a copy of which he is required to obtain from the colliery office before he commences to work.

22nd. No workman shall enter the mine, or leave an appointed place near the bottom of the pit, until the deputy overman shall have returned and reported on the state of the mine.

The workmen and boys shall go in and out of the mine by the main travelling roads, unless otherwise specially directed by the overman or manager.

The workmen are not to take any boys into the mine under the age of 12 years, except they shall have been formally employed by the manager.

The workmen and boys shall not go to any other parts of the mine than their own working places on any pretext whatever.

No person shall enter his working place if barred by crossed timbers, but must seek the overman, or his deputies, for fresh instructions.

23rd. Every person on first entering his working place shall assure himself that it has been examined, by observing whether the proper chalk mark has been made on the face of his working place, and if it has not been made he must at once report the same to the overman or manager.

Every workman is responsible for the safety of his working place, shall be careful to carry on his gob wall or stowing sufficiently close to the face, according to the directions of the overman or his deputies.

Every workman shall supply himself from the stock at the colliery, and put up a sufficient quantity of pit timber to keep his working place in a fit state to work therein.

No incompetent or inexperienced person shall work in a stall by himself, or at any operation involving risk.

Where several men are at work together, the person specially appointed to have the charge of that working place shall enter first to ascertain that the place is in a fit state, paying attention to the state of the roof, and seeing that the timber and sprags are set in the best possible manner.

24th. Every person passing through a door must close it carefully after him.

No person shall leave a light in any part of the mine when leaving his work, nor use powder in a careless manner, nor without permission to use it.

No person shall injure any air course, brattice, caution mark, door, stopping, nor put coals, rubbish, or any other obstruction in any air course, nor do any other act whereby the lives of the workmen or the security of the mine would be endangered.

Every person discovering any doors standing open which ought to be shut, any derangement of the ventilation, or injury to doors, stoppings, or brattices, finding any appearance of choke damp, gas, or water, or seeing any danger in the roof of roads, or headings, shall at once give notice to the overman, or his deputies, in order that the same may be remedied.

25th. A board shall be placed at the bottom of each heading, on which the fireman shall each morning place a number in chalk, denoting the day of the week, commencing with No. 1 for Monday.

26th. No person shall try for firedamp with a naked light, nor attempt to brush out any firedamp.

No person shall in any way interfere with a danger or caution mark except by the order of the overman or one of his deputies.

No workman shall ride upon or be on any incline below ground whilst it is at work without the order of the manager.

27th. The ventilating furnace is to be kept clean by each furnace man in his turn or shift, and supplied with a sufficient quantity of coals. The furnace men to change at the furnace, so that no slackening of the fire be occasioned by absence. The furnace drift shall be cleaned out when requisite, under the inspection of the overman or deputies. The deputy overman or other person appointed for that purpose shall travel occasionally the airways at each side of the furnace.

An anemometer, or other indicator, to be placed near the furnace, to show the regularity of the air current, as a guide to the furnace man.

The door boys shall remain at their doors during all ordinary working hours, and to see that the doors are properly closed after the passage of persons, horses, and trams.

Safety Lamps.

28th. The lamp-keepers shall see that the lamps are clean and in good repair, and they shall supply such a number as shall be required daily, with a sufficient quantity of oil and wick. In all cases where lamps are returned injured, they shall report the circumstance to the overman. The deputy overman of the district where lamps are being used shall examine and lock the lamps or see that they are locked, at the lamp stations belonging to those districts, as the workmen proceed "in bye."

29th. Lamp stations opening out of the main in-take air courses shall from time to time be fixed upon by the underviewer or overman, and those stations shall be indi-

Names.

DOWLAIS IRON CO.—*cont.*

cated by boards put up with the words "safety lamps" painted upon them. Beyond these stations no naked lights and no safety lamps, except such as shall have been examined and securely locked by the lamp-keeper or some other responsible person, shall be taken.

30th. The overman, deputy overman, hitchers, and other duly appointed persons only shall be allowed to carry a lamp key, and no collier cutting coal shall be so appointed; and under no circumstances is any person to take the top off his lamp on the "in-bye" side of the lamp station referred to under the last head. When the workmen receive their lamps they shall examine the same to see that they are locked and in a safe condition; and any workman found on the "in-bye" side of the lamp station with his lamp unlocked shall be dealt with as if he had been found with the top of it off.

31st. The overman and his deputies have full authority to direct the workmen how to use their safety lamps during the time of working; and the workmen are particularly enjoined to attend to such directions.

The overman and his deputies are authorized to compel any person to leave the mine immediately who does not do so, and they shall report all such occurrences to the manager.

32nd. Should any accident happen to a lamp whilst in use by which the gauze is injured or oil spilt upon it, or by which it is in any other way made unsafe, the light shall be immediately extinguished by drawing down the wick into the tubes with the pricker; the lamp is then to be taken out to the station where the lamps are examined, and on no account is it to be again used until it has been examined and locked by the lamp-keeper or some other responsible person.

33rd. Should any workman using a lamp detect, by the usual indications the appearance or presence of fire-damp, he shall first pull down the wick with the pricker as before mentioned, and then, should the flame still continue in the interior of the lamp, he shall remove the lamp with the greatest possible care, it being particularly directed that he shall not attempt to extinguish the flame by any other means, he shall then without delay return to the lamp station and give information of the occurrence to some responsible person.

34th. Every collier, haulier, door-boy, or other person to whom a safety lamp shall have been entrusted is hereby ordered not to interfere in any way whatever with it beyond the necessary trimming of the wick with the pricker. The lamp shall in no case be hung upon the props next the goaf, nor close to the wall side, nor nearer the swing of the tools than two feet.

35th. Should any collier, haulier, door-boy, or any other person in charge of a safety lamp in any case lose his light, he shall take the lamp before being used again to the station where the lamps are examined, to be relighted, examined, and locked by the lamp-keeper or some other authorized person.

36th. No person shall be allowed to smoke tobacco or anything else in any part of the colliery on the "in-bye" side of the lamp stations indicated by rule 29th, nor shall he be allowed to take with him beyond these stations a tobacco pipe, matches, or any means of producing fire.

37th. In all cases where safety lamps are being used, where the manager or underviewer shall deem blasting necessary, a competent person to fire the shots shall be appointed; under no circumstances shall shots be fired in or near places where there is the slightest trace of fire-damp. Touch paper must be used for lighting the shot, and in no case must naked lights be used for that purpose. Blasting by the workmen, except when expressly authorized by the manager, or underviewer, or overman is prohibited.

Coal Shafts.

38th. It is the duty of the person in charge of the coal shafts to carefully examine or cause them to be examined and tried over as often as was necessary, but at least once a week, to see that they are kept safe and in a proper working state, and to see that the carriages work clear of all obstruction.

39th. Should he find any shaft or any portion of a shaft in an unsafe or improper state, he is hereby authorized to stop the working of such shaft until the defect has been removed, and the insecure places properly cased. He shall report its state to the colliery manager.

40th. Signals to be painted on a board and hung up at the shaft top.

41st. No person acting in a place of trust shall depute any one to do his work without the sanction of the manager.

42nd. The wages of the men employed in and about the colliery shall be paid in money at the colliery offices specially appointed for the purpose, and known as—

The Dowlais Works Office,
The Dowlais Schools Office,
The Cae Harris Yard Office,
The Dowlais Stables Office,
The Dowlais Lower Incline Top Office, and
The Vochrhiw Machine Office.

43rd. If an explosion of fire-damp should occur, every person attempting to escape should cover his nose and mouth with a thick cloth or cap wetted and tied over them if possible.

44th. Any person informing against any offending party or parties will in every case be rewarded.

Persons who neglect the rules or refuse obedience to the orders of the appointed agents are to be sent out of the mine with a view to the investigation of the case and the punishment of the offender.

Names.	*Penalties under the Act.*
Dowlais Iron Co.—*cont.*	Every person (other than the owner or principal agent) employed in or about the coal mine, colliery, or ironstone mine who neglects or wilfully violates any of the special rules established for such coal mine, colliery, or ironstone mine, shall for every such offence be liable, upon a summary conviction for the same before two justices of the peace, to a penalty not exceeding two pounds, or to be imprisoned, with or without hard labour, in the common gaol or house of correction for any period not exceeding three calendar months. Every person who pulls down, injures, or defaces any notice hung up or affixed as required by this Act shall, for every such offence, be liable to a penalty of not exceeding 40*s*. All penalties for offences under this Act may be recovered in a summary manner before two justices of the peace within three months of the commission of the same in the manner prescribed by the law in that behalf. (See Act 23 & 24 Vict. c. 151.)

Fox, Head, & Co.

1. Plan of premises.
2. Rules and conditions under which workmen are engaged.
3. Newspaper reports concerning the co-operative scheme.
4. Extract from "the Darlington and Stockton Times."
5. Memorandum by a forge roller.
6. The co-operative scheme.

THE CO-OPERATIVE SCHEME.

Messrs. Fox, Head, and Co., of Newport Rolling Mills, Middlesbrough, hereby give notice that, being under the conviction that the present disastrous dispute is really the result of a want of identity of interest between masters and men, they have after due consideration resolved to adopt the following changes in conducting their business for a period of three years from date, and to be continued longer if found to work satisfactorily. In all other respects, except where due notice is given, the old rules and regulations will be adhered to. (*Note* 1.)

1. None but non-union men will be employed. Every man will be required to sign a paper, declaring that he neither does nor will belong or subscribe to any trades' union so long as he is in the employment of Messrs. Fox, Head, and Co. (*Note* 2.)
2. The firm undertake to give the requisite notice to cease membership with the Iron Manufacturers' Association so soon as the works are again in full operation on non-union principles.
3. Having observed the success of the co-operative principle, as carried out by Messrs. Briggs and Sons, coalowners, of Methely, near Leeds, and after corresponding with and visiting the same, Messrs. Fox, Head, and Co. intend to adopt the following plan, similar to theirs, viz.:—To pay all labour according to the scale of wages now preparing by the Iron Manufacturers' Association, upon which only the works in the said Association are open. These prices will rise and fall when a general rise or fall takes place in the district. This will not prevent any modification of any particular rate or price which may be determined upon. (*Note* 3.)
4. After reserving 10 per cent. to the firm as interest, &c., on the value of the works (*Note* 4) and all property owned or held by the said firm, the profits on manufacturing (*Note* 5) shall be divided equally between capital and labour. For example—If the profits at the end of the year were 10 per cent. or under, which would show a not very good condition of trade, the employés would receive their wages only, but if they were say 17 per cent., as was the case last year at Messrs. Briggs and Sons, then one-half of the 7 per cent. would be given as bonus to the agents and workmen, and the other half would be taken by the firm. These bonuses, when declared, would be paid on application within one month from notice being given that they were payable, to every one receiving salaries or wages from the firm, and in proportion to their total earnings during the year. Thus the more skill and the more regularity, the greater the bonus.
5. Provided that, should there be an actual loss, or should the total profit be less than 5 per cent., that amount shall in any case be paid, as heretofore to the proprietors as interest, and should they at any time contract, for the general good of the concern, any loans or other money at a higher rate of interest than 5 per cent., and the profits in that year not amount to such rate paid by them, they shall still be entitled to draw the same, or the excess of the same above the rate of profit made that year; and the said amounts, together with any actual loss, shall be carried to the debit of the profit and loss accounts, to stand against future profits.
6. Provided further, that before any dividend is declared in excess of the 5 per cent. and interest of loans above mentioned, a sum of not more than 2½ per cent. on the total value of the works shall be carried to a sinking fund, the property of the firm, and to be used to provide against bad debts or any other casualties affecting the value of the original capital. This deduction will not be made when, and so long as, the said sinking fund shall amount to 12½ per cent. of the whole value of the works.
7. Further, in order to assist the steady saving agents or workmen to become themselves capitalists, the firm will avail themselves of the amended law of partnerships passed last year, to allow all such to invest in the works their savings, to be withdrawable at any time on six months' notice, bearing interest at 5 per cent. certain, and also proportion of half the excess of profit when that exceeds 10 per cent. To prevent abuse, however, of this privilege, the firm will retain power of veto upon the amount thus invested by each employé.

Names.

FOX, HEAD, & CO.—*cont.*

8. Should any investor desire to make his money withdrawable at a fortnight's notice, he can do so by stating such to be his wish at the time of his investment, but in this case he will not be entitled to any share of profits upon the same. (*Note* 6.)
9. The sick, funeral, and building fund will be henceforth abolished. The works' doctor will be retained, and the infirmary subscription continued, amounting together to 3*d.* per man per fortnight. The services of the doctor for families at 4*d.* per man per fortnight will be optional as heretofore. The amount of the building fund now in hand will be disposed of as may be decided when the works are again in full operation, in accordance with the object for which it was stopped.
10. In case of any employé leaving or being discharged at any other time than the end of the year, he will still be paid any bonuses which may be declared upon that year's working; but, of course, only upon the amount of his earnings during that year, and on application being made according to the above rules at the end of the said year. Where bonuses are not applied for according to the above rules (*Note* 7) they will be forfeited, and carried to profit and loss account for the ensuing year.
11. Lastly, Messrs. Fox, Head, & Co. wish it to be clearly understood that they will retain in their own hands, as heretofore, the entire control of the management of the works. The accounts will be duly audited at the end of each year by an independent public accountant (*Note* 8), and so much of the result as concerns the men will be posted in the office window. The decision of the public accountant will be considered final.

Note 1.—The old rules and regulations referred to have now been revised, and, in their new form hereto attached, must be held binding on all employed by Messrs. Fox, Head, & Co.

Note 2.—By trades' unions it is not intended to include sick and funeral benefit societies, provided their operations are confined to these objects.

Note 3.—By mutual arrangement between Messrs. Fox, Head, & Co. and the workman or workmen concerned. This scale of wages is now prepared, and is the same as advertised by Messrs. Fox, Head, & Co. with their co-operative scheme. Where the Iron Manufacturers' Association has no rate, 10 per cent. will be deducted from the old rate.

Note 4.—The value of the works, on commencing with the co-operative system, shall be taken at the amount standing in Fox, Head, & Co.'s books at or about that time. Stock will be taken at the end of each year as heretofore, by persons properly appointed by Fox, Head, & Co. for that purpose, and the value of the works, as shall be made up in the office books by Messrs. Fox, Head, & Co. and their agents, shall be taken as the basis upon which interest and profit are reckoned.

Note 5.—The profits on manufacturing to include all profits on the manufacture of iron of any sort or description in which Messrs. Fox, Head, & Co. may engage, but not to include profits on the manufacture of a non-conducting composition for which they are proprietors of a patent, and with which none but a few men specially engaged have anything to do. On the other hand, a separate account will be kept of the plant devoted to this branch of business, and the same will be deducted from the value of the plant engaged in the manufacture of iron.

Note 6.—No person employed by the firm under these rules shall be a partner therein in consequence of having put money into the business, of having a share in the profits thereof, or by any other means whatsoever, and none of the rights or liabilities of a partner shall attach to any such person.

The firm shall be at liberty to discharge any person employed by them in the same manner and for the same reason as they might have done if these new rules had not been made.

Note 7.—That is, within one month from notice being given that such bonuses are payable.

Note 8.—Selected by the firm.

Signed November 9th, 1866. FOX, HEAD, & CO.

We, the undersigned, in accepting employment from Messrs. Fox, Head, & Co., in consideration of certain wages or other money payments agreed to be paid by them to us, do hereby agree to serve them exclusively of any other person or persons, according to the above rules and conditions, together with the particulars of their co-operative scheme and notes as before written.

GILFORD MILLS.

1. Lithograph view of works and cottages.
2. Ground plan of mills.
3. Explanation of do.
4. Rules and regulations for work-people.

GREENING & CO.

1. Extract from the "Times" relative to co-operative societies.
2. Firm's catalogue.
3. Supplement to firm's catalogue.
4. Papers relating to the South Buckley co-operative colliery.
5. Copies of No. 89 and 100, "The Co-operator."

Names.

GREENING & Co.—*cont.*

6. Resolutions of meeting of directors relative to distribution of bonuses.
7. Address to the workmen on the same subject.
8. Account of inaugural meeting of the Cobden Memorial Mills.
9. Pamphlet entitled "The Present Position and Prospects of Partnerships in Industry."
10. Monthly share list.
11. The Lloyd & Summerfield Co. partnership's book.

HANNINGTON & SONS.

1. Details of management.
2. List of persons engaged, and time of service.
3. View of premises.

HARE & Co. -

1. Extracts from newspapers describing excursions given to workmen.

HENDERSON & Co.

1. LETTER TO THE IMPERIAL COMMISSION.

Durham, England, October 29, 1866.

To the Councillor of State, General Commissioner of the Imperial Commission for the Universal Exhibition, Paris, 1867.

Honoured Sir,

I respectfully desire your permission to enter as a candidate for the Distinct Order of Reward announced by the Imperial Commission in Article 30.

I am acting partner in the firm of Henderson & Co., Durham, England, which was established for the manufacture of carpets in 1814.

In the year 1839, when I first undertook, by every means in my power, to prevent strikes among workmen, Messrs. Henderson & Co. employed about 230 operatives.

In the year 1859, when my wife and myself (with the assistance of Messrs. Henderson & Co.) sought to improve the moral and intellectual condition of the operatives, these numbered 392.

At the present time, October 1866, there are 467 operatives employed, who, owing to improved machinery, produce nearly five times as many yards of carpeting as were manufactured by the firm in 1839.

Before the year 1839 the carpet trade of England was in an excited state. Not a year passed without the occurrence of strikes in one or more of the firms, and the bitterness of feeling between masters and workmen was most lamentable. In that year a private meeting for the discussion of the difficulty was held at Barnard Castle; Mr. John Crossley, Mr. J. Whitwell, Mr. Monkhouse, and myself being present.

We there determined to form an association which, ignoring all past ill-feeling, should set itself in the first place to do justice, and even more than justice, to the operatives; and, in the second, to convince them by its acts that the association was their best and truest friend.

This great work has been effected in a manner which has called forth the approval of many thousands of enlightened Englishmen, and it is now generally pointed out by the press of England and Scotland as the model institution which has best "developed a spirit of harmony" among the operatives in the factories affected by it. Nor has its influence stopped there. Through these operatives it has affected the workers in other trades, and has led to a better understanding between masters and their workmen generally.

The association resolved at its outset that periodical meetings of the masters should be held, to which during a part of their sitting, deputies from all the manufacturers in the trade should be admitted. It was believed that at such meetings reason would prevail, because every speaker would be judged by what he could prove, not by strong statements or the expression of passionate feelings; that masters disposed to tyrannize over their workmen would not dare to do so when liable to be periodically called to account for it in presence of their fellow-manufacturers; and lastly, that the paid delegates of the workmen whose object had too generally been to prolong mischief, would cease to have power, and would be replaced by the most thoughtful and trustworthy workmen of the several manufactories.

All this which some deemed Quixotic in the year 1839 has been verified, by events, to the full. The association soon enrolled among its members nearly every firm in England, and with the exception of a misunderstanding at one small firm during a few days only, there has been

Names.

HENDERSON & Co.—*cont.*

during 27 years perfect peace and mutual esteem in a trade which employs many thousand operatives.

Nor is this all, the master's association has successfully brought ts moral influence to bear upon several strikes in the carpet manufactories of Scotland. Indeed every strike in the carpet trade of the United kingdom has ceased on their appeal, the association having been hailed in each case by both masters and workmen as their true friend.

From 1839 to 1842 I acted as president and chairman of the association. In 1842 I voluntarily retired in order that I might undertake the more arduous duties of secretary, but in 1849 I resumed the presidency and have since continued to hold it. Whether president or secretary, however, nearly all the labour of correspondence (which has been very great) and the guidance in every difficulty, has been borne by myself. Living a hundred miles distant from the committee and officers of the association, I have had to trust to my own judgment in defining the right and wrong of several cases which each year brought for settlement, and this I have effected without summoning meetings of the committee.

I have entered into these particulars on the question of strikes because I am convinced that the first step towards improving the social condition of the working classes is to convince them that they will always meet with justice at the hands of their employers. On this safe basis any structure for good may be raised, without it all philanthropic and charitable schemes will prove sad failures.

In proof of all that I have advanced in this letter and of my long and successful labours in the cause so near my heart, I beg to transmit to you the minute book of the association together with a bundle of documentary evidence.

In order to facilitate research I have provided a schedule of the more important contents of the minute book and documents.

Since 1859 my partners and myself, assisted by our families, have striven in many ways to raise the standard of the workers in the factory, and to make their days brighter and happier. That much has been effected in this way is certain, and among the means used are several which have been scheduled, and are now submitted to your consideration.

May I beg to draw your attention to three documents in particular which have been given for your consideration.

No. XXXIX. The report of Her Majesty's Inspector of Schools as to the efficiency of the school of Messrs. Henderson & Co.

No. XL. Testimonial of the carpet weavers of the North of England, respecting what has been effected by myself for the benefit of the carpet and other trades.

No. XLI. Letter of John Crossley, Esquire, senior partner of the large firm of John Crossley & Sons, Limited. This gentleman having been associated with me since the year 1839 in my efforts to avoid strikes, has had a better opportunity of knowing what I have really done than any other person.

Whatever may be the result of the application I am now making permit me in conclusion to express my deep satisfaction that His Majesty the Emperor of France should have instituted this special order of reward, one which must tend to encourage so greatly the fostering care of masters for the workers in their factories.

I have the honour to subscribe myself,
Honoured Sir,
Your faithful and obedient servant,
WILLIAM HENDERSON.

The following schedule briefly explains what has been done by Messrs. Henderson & Co. to alleviate the social condition and to improve the moral and intellectual condition of the operatives in their employment, together with the families of the operatives.

All costs and charges connected with these institutions have been defrayed by Messrs. Henderson & Co., with the exception of what is stated in the schedule.

The entire organization and management of the several schools, choral societies, savings banks, and lying-in club, have rested with Mrs. William Henderson, who has been assisted in the schools by the junior members of the families of the three partners in the firm.

The Carpet Weavers Humane Institution was established by Messrs. Henderson & Co. in the year 1840, at which date few sick clubs were in existence. Mr. William Henderson is president, and acts as chairman

Names.

HENDERSON & Co.—*cont.*

at the half-yearly meetings. Its object is to provide for the wants of the adult workmen and apprentices during sickness, and to furnish decent funerals in case of death. In 1840 there were 30 members, but such is the popularity of the institution that it now numbers 170. The strictest economy of expenditure is insisted on. Messrs. Henderson & Co. subscribe 8*l.* annually, besides other special gifts. The result is that the institution is enabled to allow very nearly the same money payments to its members as is done by the Odd Fellows, Foresters, and other great societies of the same character, while (on an average of the past 10 years) the cost to themselves is only 16*s.* 7¾*d.* a year, compared with about 26*s.* a year in the great societies. This solid advantage is highly appreciated by the members.

A printed copy of the rules of the institution accompanies this. See No. XXXVII.

Aged Workmen and Destitute Widows.—For the relief of their operatives who are too old to labour, and of widows similarly circumstanced, Messrs. Henderson & Co. have long appropriated 60*l.* annually. This is now increased to upwards of 80*l.*, which rate they intend to maintain.

The Clothing and Lying-in Club for the wives of the workmen was established in 1855, when 36 members joined. It has steadily increased until the present time when it numbers 104 members. The money cost to the firm now amounts to about 30*l.* per annum. A copy of the rules accompanies this. See No. XXXVIII.

The night school for men and boys working in the factory was begun in 1858 with an average of 50 scholars. This school has steadily progressed in numbers and efficiency; the young men and boys now in attendance number 80; the attendance of the boys is compulsory. The schoolmaster holds a Government certificate as properly qualified, and he is assisted by several teachers connected with the firm. The pupils are instructed in reading, writing, arithmetic, and geography. The entire money cost of this school is defrayed by Messrs. Henderson & Co. The efficiency of the school is attested by the accompanying report of Her Majesty's Inspector of Schools. See No. XXXIX.

The night school for young women and girls working at the factory was opened in 1859, and has continued during the winter of each year since. The young people are taught reading, writing, and arithmetic by the ladies connected with the firm, under the superintendence of the master of the Sunday School.

In 1859 there were 30 scholars; there are now 65, the age varying from 12 to 23.

The Sunday School for boys and girls was opened in 1859 for the children of operatives and young people working themselves at the factory. The first year there were about 25 girls and 30 boys. Most of them were very ignorant, and so ill-clothed that it was not possible to take them to church. Now, in 1866 there are 85 girls and 82 boys in regular attendance. The elder scholars read well, and all are well instructed in their duty and their religion. The dress of the children is good, and their manners are quiet and respectful. There are saving clubs established for the benefit of the boys' Bible class, girls' Bible class, 1st class of boys and 1st class of girls in this school. In these clubs a large addition is given in money (18 per cent.), if the savings of the scholars are spent in the purchase of Sunday clothes.

A Bible class was formed in 1861 for the young men who were too old for school. In this class 14 young men receive sound religious instruction twice every Sunday. A similar class was also formed for young women, in which 18 are taught every Sunday.

The Choral Society was organized in 1862. It is composed of the workmen, boys, and girls of the factory. Every member pays 1*s.* on entrance, and this is the sole charge for three months' tuition, the harmonium and necessary music being provided by Mr. William Henderson. The choral master, Mr. Orlando Stimpson, is one of the best professors of music in the city of Durham. There are now 70 members of the Choral Society, most of whom are now good singers and thoroughly understand the theory and grammar of music.

A Sunday Choral Society was formed in 1864 for the practice of sacred music. The harmonium is played by one of the gentlemen connected with the firm, and about 15 young people, together with those belonging to the two Bible classes, meet to sing anthems and hymns.

A sewing school for the young women of the factory was opened early

Names.

HENDERSON & Co.—*cont.*

in the year 1866 and now contains 45 scholars. It is held every Monday evening at Mrs. William Henderson's private residence. Calico and flannel clothing is cut out and prepared, the young women are taught to sew it neatly, and are then allowed to purchase the articles of clothing at a reduced price. This school is supported entirely by Mrs. William Henderson.

A holiday is given every summer to every one employed in the factory. A special train is arranged, and the operatives with their friends, in number varying from 1,000 to 1,500, go to spend a long day by the seaside. Since 1860, Mr. and Mrs. William Henderson, together with their family and a party of friends, have accompanied the people on these trips, and have had the satisfaction of seeing the greatest harmony and good conduct among the people. The firm give 15*l.* in money towards the expense of the day, and provide free tickets for all the teachers and pupils in their schools.

A fête is held at Christmas by the workpeople in five of the large rooms belonging to the manufactory. These fêtes consist of a tea, a supper, and a ball. The rooms are tastefully and beautifully decorated, and the heads of the firm with their families attend and join in the dancing and other amusements.

SCHEDULE OF DOCUMENTS ON STRIKES.

Reference to the Book of Minutes by Numerals.
Reference to separate documents by Dates and Roman letters.

Date.	Page of Book.	Documents.
June 7, 1839 - -	3 & 4	First meeting of Masters' Association exhibits principle on which it was founded. This meeting was followed by strikes at three or four firms in the Yorkshire district; these, however, soon yielded. The strike did not extend to Durham; both masters and men at Durham were satisfied.
July 2, 1840 - -	9	The system of requiring notes of character from each workman.
July 7, 1842 - -	15	Mr. William Henderson resigned the chairmanship in order that he might as secretary conduct the increasing business of the Association. In the early part of 1843, great excitement existed among the workmen of Scotland, owing to the Port Eglinton Company, Glasgow, having reduced their rate of wages for weaving. On this, Mr. William Henderson opened a correspondence with that firm, which had for its object the return to the older rate. This correspondence having to be conducted with many of the masters in Scotland and England was very voluminous; at length Mr. W. Henderson accompanied by two other gentlemen visited, on their own responsibility, several of the manufacturers in Scotland, and succeeded in completely changing the views of all save Messrs. Haddon & Sons of Aberdeen, and the result of the journey was a return to the old rate of wages throughout nearly the whole of Scotland. The gratitude of the workmen to Mr. W. Henderson for his labours resulted in the following:—
May, 1843, I. -	—	Address of the carpet weavers of Stewartson to Mr. William Henderson.
April 10, 1843, II.	—	Address of the carpet weavers of Durham to Mr. William Henderson.
May 16, 1843, III.	—	Address of the carpet weavers of Kendal to Mr. William Henderson.
May 4 and Sept. 6, 1843, IV.	—	Addresses of carpet weavers of Kilmarnock to Mr. William Henderson.
Sept. 8, 1843, V. -	—	Mr. William Henderson's reply to Kilmarnock address.
May 10, 1843, VI.	—	Address of the carpet weavers of Ayr to Mr. William Henderson.
April 8, 1843, VII.	—	Address of the carpet weavers of Lasswade to Mr. William Henderson.
May 12, 1843, VIII.	—	Address of the carpet weavers of Sanquhar to Mr. William Henderson.
April 15, 1843, IX.	—	Address of the carpet weavers of Halifax to Mr. William Henderson.
May 18, 1843, X. -	—	Letter of S. Cooke (a large carpet manufacturer in Yorkshire), expressing the deep obligations of the Masters' Association to Mr. W. Henderson for his

Names.	Date.	Page of Book.	Documents.
HENDERSON & Co.—*cont.*			zeal in attaining the higher rate of wages for the workmen of Scotland.
	July 6, 1843 - -	16	A deputation appointed to go to Glasgow and Bannockburn to try to induce the masters at those places to join in a deputation to Messrs. A. Haddon & Sons, Aberdeen. The deputation proceeded to Glasgow and several other towns and then to Aberdeen, and succeeded with great difficulty in bringing about an amicable understanding between Messrs A. Haddon & Sons and their workmen.
	July 22, 1843, XI.	—	Messrs. A. Haddon & Sons assent to the wishes of the deputation from England.
	July 22, 1843, XII.	—	Mr. William Henderson's acceptance of same as secretary on part of the deputation.
		21	The Association takes steps to introduce a similar Masters' Association in Scotland.
	June 1844, XIV. -	—	Address of the workmen in the employment of Messrs. Henderson & Co., asking an advance of wages. (This request was refused on the ground that it was unwise at that moment to risk renewed trouble with the masters of Scotland.)
	April 21, 1846, XV.	—	Address of Messrs. Henderson's workmen requesting the Masters' Association to grant an advance of wages.
		25	An advance of wages granted on condition that the same be also given by two-thirds of the carpet manufacturers in Scotland. (It must here be noted that another quarrel had occurred between Messrs A. Haddon and their workmen on the subject of wages).
	Sept. 19, 1846, XVI.	—	Letter of Mr. W. Henderson to the Port Eglinton Company advising as to the procedure of the masters of Scotland generally in their quarrel with Messrs. A. Haddon & Sons, Aberdeen.
	September 23, 1846, XVII.	—	Letter of J. Craig, carpet weavers' secretary, alluding to course taken by Mr. William Henderson, to put an end to the quarrels in Scotland. (This strike, after having lasted 70 weeks, was chiefly at the intercession of Mr. William Henderson and the English Masters' Association brought to an end, the difference being submitted to the eminent Mr. Smith, of Deanston, who gave his award almost altogether against Messrs. A. Haddon & Sons).
	November 19, 1846 XVIII.	—	Appeal of the weavers of Aberdeen to Mr. W. Henderson for his assistance in their distress. On the conclusion of the great strike at Aberdeen, Mr. William Henderson received an address of thanks from his workmen, signed by their secretary, R. Keith.
	April 14, 1848, - XXIV.	—	Address of thanks from the carpet weavers of Durham to Mr. William Henderson. This address also refers to a reduction of wages which had just been determined on owing to the bad state of trade.
	April 17, 1848, - XXV.	—	Reply of Mr. William Henderson to the workmen of Messrs. Henderson & Co., thanking them for the cheerfulness with which they have submitted to the recent reduction of wages.
		29	The English masters decline to give the advance of wages asked for by their workmen.
		33	The English masters declare their resolution to discountenance the entrance of their workmen into general Trades' Unions, and desire to maintain the understanding that the associated carpet manufacturers should have to deal only with the associated carpet weavers. To this wish of the masters their workmen assented.
		35	On the death of Mr. Howard, Mr. William Henderson was re-elected president, the duties of which office he has discharged to the present time (A.D. 1866), carrying on also nearly the whole of the correspondence of the association affecting its regulations, strikes, &c., &c.
		39	The weavers at Barnard Castle ask for the assistance of the association to protect them from the reputed wrong doings of Mr. Dunn, carpet manufacturer. Mr. William Henderson corresponds with Mr. Dunn, and, accompanied by two other gentlemen, visited him. They succeeded in arranging that Mr. Dunn should pay his workmen proper prices for their work. The scale was settled at the meeting held October 11, 1850.
	June, 1850, XIX.	41	Letter from the Halifax weavers begging the Masters' Association to interfere in the trouble between Mr. Dunn and his workmen.

Names.	Date.	Page of Book.	Documents.
Henderson & Co.—*cont.*	June, 1850, XX. – July 13, 1850, XXI.	—	Letter from the Barnard Castle weavers on ditto.
		—	Mr. William Henderson's letter, wherein is shown that he has settled the quarrel, but is not yet at liberty to speak of it.
	July, 1850, XXII.	—	Several addresses from the weavers in the various firms asking for an increase of wages.
	July 4, 1850, XXIII.	—	Printed refusal and reasons why an advance of wages cannot then be given.
		44	The Masters' Association decline to give a general advance of wages as requested by the workmen.
		49	The English Masters' Association are willing to give an advance of wages if the masters in Scotland will do the same.
		51	The masters in Scotland decline the proposition of an advance of wages.
	May 11, 1853 -	53	The English Masters' Association determines to give their workmen a general advance of wages, notwithstanding the refusal of the masters in Scotland.
	July 6, 1853 -	58	The masters in Scotland agree to follow the example of the English masters, and give an advance of wages.
		62	Refers to a strike at the factory of Mr. Pizzie, of Haverhill, Suffolk, which after continuing several months was, on the application of the weavers to Mr. William Henderson amicably arranged by Mr. William Henderson and Mr. Monkhouse.
		66	Letter of Mr. William Henderson to the "Morning Chronicle" (London), on the great strike, in the cotton trade at Preston.
		66	Article in the "Durham Chronicle" on Mr. William Henderson's letter.
		67	Article in the "Durham Advertiser" on the same.
		68	Article in the "Globe" (London), on the same.
		69	Paragraph in the "London Journal" on the same.
		—	In 1855 another great strike occurred in the cotton trade of Lancashire, and the operatives in the carpet trade, anxious to impart the advantages of peace enjoyed by themselves, wrote to the operatives in Lancashire and to the "Times" newspaper (London).
		74	Letter of carpet weavers to the cotton operatives on strike at Manchester. (This was written by the weavers at Durham.)
		74	Letter of carpet weavers to the "Times" (London) on the strike at Manchester. (This was written by the weavers at Durham.)
		75	Article in "Edinburgh Weekly Herald" advocating the letters of the English and Scotch carpet weavers.
		76	Article in the "Times" (London) on the principles to be adopted for avoiding strikes, as shown by Mr. William Henderson's letter in the "Times" of same date.
		77	Article in the "Durham Chronicle" on the letters of the carpet weavers, showing how to avoid strikes.
		77	Article in "Lloyd's Weekly Newspaper" on the same.
		78	Article in "Lloyd's Weekly Newspaper" on Tribunals of Industry.
		78	Another article in "Lloyd's Weekly Newspaper," in which further reference is made to Mr. W. Henderson's letter to the "Times."
		80	The Masters' Association declines the request of the weavers for a general advance of wages.
		83	The Masters' Association again declines the request of the weavers for a general advance of wages.
	May 30, 1857, XXIV.	—	Printed report of the carpet weavers delegates to their fellow workmen, in which they allude to the good feeling which has so long existed between the masters and workmen.
	July 2, 1857, XXV.	—	Address of the Carpet Weavers Association to the Masters' Association, in which the value of this report is appreciated.
		90	The Masters' Association having completed the 20th year of its existence, met at Durham to celebrate the event, and were hospitably entertained by the president, Mr. William Henderson. At this meeting a considerable advance of wages was granted and much valuable discussion occurred on the best means of improving the moral and social condition of the workers.
		98	The Masters' Association declines to accede to the wish of the weavers for a general advance of wages.

Names.	Date.	Page of Book.	Documents.
HENDERSON & Co.—*cont.*	August 1, 1860, XXVI.	—	Address of the Carpet Weavers' Association to Mr William Henderson as president, calling upon him to summon a special meeting of the Masters' Association to re-consider their recent refusal to grant an advance of wages.
	August 15, 1860, XXVII.	—	Reply of Mr. W. Henderson, as president, declining to summon such meeting, and giving reasons for the same.
		111	The request of the weavers for an advance of wages on particular goods is refused.
		112	Resolutions expressive of sympathy with the president and Mrs. William Henderson for the ill health which prevents the former from being present at the meeting of July 29, 1862.
		114	The request of the weavers for a general advance of wages is refused.
		115	This is a special meeting called on the personal responsibility of the president, who considered that the time had arrived when an advance of wages should be given. The masters confirmed this view, giving a general advance of wages subject to the condition that the masters in Scotland make a corresponding advance within six months—*i.e.* by August 1, 1864.
	February 10, 1864, XXVIII.	—	Letter of the president of the English Masters' Association to the secretary of the Scotch Masters' Association, requesting the latter to join the former in a general advance of wages. (The Scotch masters being unwilling to grant the above advance of wages, a deputation of English weavers travelled through Scotland soliciting each firm separately. The account of this is given in the letter of the secretary of the English weavers to Mr. William Henderson.)
	July 5, 1864, XXIX.	—	Letter of John Sutcliff, the secretary of the English weavers to Mr. William Henderson. (At this time the dispute between the masters and workmen in Scotland was so serious that Mr. William Henderson on his own personal responsibility, went alone to Glasgow and there met nearly all the masters in Scotland. After much discussion he succeeded in prevailing on them to give the proper advance of wages, excepting on some unimportant classes of goods.)
	July 15, 1864, XXX.	—	Letter of the English weavers secretary to Mr. William Henderson acknowledges the services rendered by him to the body of workmen at the meeting held in Glasgow.
	July 16, 1864, XXXI.	—	Printed account of the agitation among the workmen in Scotland. Shows the importance attached to Mr. William Henderson's interference in the dispute.
	July 30. 1864, XXXII.	—	Printed account showing the importance attached to Mr. William Henderson's interference in the dispute.
		117	The English masters agree to postpone the time for the masters in Scotland giving the advance of wages till October 1, 1864, so as to allow of the settlement of the few classes of goods on which an understanding had not previously been come to.
	September 8, 1864, XXXIII.	—	Letter from the secretary of the English weavers, thanking Mr. William Henderson on behalf of the trade for his having been the chief means of raising the wages of the workmen in England and Scotland, whilst at the same time peace was continually maintained throughout the entire carpet trade in both countries.
	October 15, 1864, XXXIV.	—	Article in the Leeds Mercury newspaper on the "Settlement of the late Dispute in the Carpet Trade," in which the services of Mr. William Henderson are recognized. This article is evidently authorized by the Workmen's Committee.
	July 6, 1865, XXXV.	—	Address of the Carpet Weavers' Association to the Carpet Masters' Association asking for an advance of wages. Refers to the good understanding between the two bodies.
		121&122	An advance on several classes of goods is given.
		123, 124 & 125	A further advance of 10 per cent. on wages was given on the condition that the masters in Scotland give a corresponding advance previous to December 1, 1866. At this meeting the Masters' Association signified their strong approval of their workpeople only labouring in all 60 hours per week.
	XXXVI. -	—	Rules of Clothing and Lying-in Club managed by Mrs. William Henderson.
	XXXIX. -	—	Report of Her Majesty's Inspector of Schools respecting the schools of Messrs. Henderson & Co.

Names.	Date.	Page of Book.	Documents.
HENDERSON & Co.—*cont.*	XXXVII.	—	Rules of Carpet Weavers' Humane Institution, established by Messrs. Henderson & Co.
	XL.	—	Testimonial of the carpet weavers of the north of England respecting what has been effected by Mr. William Henderson for the benefit of the carpet and other trades.
	XLI.	—	Letter of John Crossley, Esq., senior partner of the large firm of John Crossley & Sons, Limited, addressed to the Councillor of State, General Commissioner of the Imperial Commission for the Universal Exhibition, Paris. Also, Mr. Crossley's letter to Mr. William Henderson.

2. Minutes of meetings of carpet manufacturers.
3. Forty-one letters from workmen employed thanking for services conferred on them and on the trade.
4. Rules of the clothing and lying-in club.
5. Regulations to be observed by all persons working in the steam shed.
6. Rules and regulations of the Carpet Weavers' Humane Institution.

HITCHCOCK, WILLIAMS, & Co.

1. Statement of particulars concerning the establishment.
2. Catalogue of library established by firm.
3. Savings bank book.
4. Mutual improvement society.
5. Rules of the Olympic cricket club.
6. Specimens of bills, &c.
7. Young men's missionary association.
8. Specimens of trade books.

H. & A. HOLMES

1. Memorandum on certain arrangements in the carriage manufactory.
2. Rules and regulations of the carriage and harness manufactory.
3 Report on Derby Working Men's Association.
4. Specimen of St. Peter's and Litchurch Penny Bank Book.
5. Annual report of St. Peter's Parish National Schools.

HOOPER & Co.

1. Time, arrangement, and general directions at works.
2. Rules, report, and statistics of the Master Coach Builders' Benevolent Institution.
3. Rules and annual reports of the Operative Coach Makers' Benevolent Society.
4. Report and papers relating to the Operative Coach Makers' Industrial Exhibition.
5. Report of the London committee of coach builders to the coach builders of the United Kingdom, on their efforts connected with the reduction of duty on English carriages entering France under the new Treaty of Commerce.
6. Notes on the construction of private carriages in England, and a report drawn up at the request of the Society of Arts on the carriage department of the Paris Exhibition, 1855, by G. N. Hooper.
7. Reports of juries at the International Exhibition of London, 1862, and Dublin, 1865, by G. N. Hooper.

HUNTLEY & PALMERS.

Rules of the Reading Biscuit Factory Sick Fund.

RULES of the READING BISCUIT FACTORY SICK FUND.

1. The contributors to this fund shall consist of all persons employed in the Biscuit Factory, excepting those who may be members of other benefit societies, to whom it shall be optional to subscribe to this fund.
2. The control of the sick fund shall be vested in the hands of the firm, who shall have the appointment of executive officers.
3. Each member shall, every Friday evening, have deducted from wages his or her weekly contribution to the fund according to the scale herein laid down, that is to say, every person receiving wages shall pay, and when sick shall receive, according to the following scale, with this exception. that no member of another benefit or assurance society shall be allowed to subscribe for a larger amount from this fund, in case

Names.

HUNTLEY & PALMERS—*cont.*

of sickness, than would make up his income from all sources to more than three-fourths of his wages:—

Weekly Wages.	Weekly Payment.	Sick Pay.
Under 4*s.*	1*d.*	2*s.*
4*s.* 6*d.* to 5*s.*	1½*d.*	3*s.*
5*s.* 6*d.* to 6*s.* 6*d.*	2*d.*	4*s.*
7*s.* to 8*s.* 6*d.*	2½*d.*	5*s.*
9*s.* to 10*s.*	3*d.*	6*s.*
10*s.* 6*d.* to 12*s.*	4*d.*	8*s.*
13*s.* to 14*s.*	5*d.*	10*s.*
15*s.* to 16*s.*	5½*d.*	11*s.*
17*s.* and upwards	6*d.*	12*s.*

4. In case of the death of any member, the following sums shall be paid to the member's nearest relation or legal representative, viz.:—Members paying 1*d.* per week, 15*s.*; 1½*d.*, 20*s.*; 2*d.*, 25*s.*; 2½*d.*, 30*s.*; 3*d.*, 35*s.*; 4*d.*, 40*s.*; 5*d.*, 45*s.*; 5½*d.*, 50*s.*; 6*d.*, 55*s.*

5. Any sick member can claim for his time lost by illness during the week he is taken ill if his wages earned do not amount to the sum he would be entitled to for sick pay under Rule 3. If his wages amount for that week to as much as the sick pay for the week, he will have no claim. Should he continue ill, this exception will not apply to another week; but he will be entitled to sick pay for any time he may have lost through illness, for which the doctor's certificate must be produced.

6. No member shall be entitled to any benefit from this fund whose illness shall have been caused by misconduct.

7. No member whilst a claimant on the fund shall frequent public houses, get intoxicated, or do any kind of business, or anything that may retard his recovery, or be out of his house, excepting by permission of the doctor in writing, later than eight o'clock at night in summer, or five o'clock in winter; or go more than two miles from his own house, without forfeiting his claims to any allowance for the week he so offends.

8. Any member when sick, not acting in strict accordance with the doctor's instructions, shall on proof thereof be fined 2*s.* 6*d.*; and any member falling sick and unable to work, shall give notice within 24 hours, or shall not be entitled to sick pay as long as he neglects to give such notice in the office.

9. Should the fund at the end of each year amount to more than is necessary to meet the demands thereon, such surplus shall be disposed of rateably among the contributors; but those who have had in sick pay an amount equal to the apportionment shall not share in the surplus so divided.

10. No member shall receive full pay from the fund more than four months inclusive, nor half pay more than four months inclusive, nor quarter pay for more than four months, also inclusive. After that period membership to cease.

11. Whenever it is necessary to elect a doctor, the mode of doing so shall be by ballot, by the members over 21 years of age.

12. No person shall be entitled to any benefit from the club until he has paid his subscription for three months, and should he leave before the expiration of that time, the whole of the amount paid in by him will be returned.

13. Any person leaving the factory, during the year, having paid into the fund more than three months, will be entitled to two-thirds of the amount paid in, from the date of the last division of surplus, deducting any amount he may have received as sick pay.

In future, all persons will be entered as members of the club as soon as commencing work in the factory; but as the members do not undergo an examination by the doctor, as usual in most other clubs, as a protection to the members, discretion shall be left to the firm in cases where it is found any member has a chronic disease and has received in any one year more than three months' sick pay, to disunite any such person from the club.

LAVERSTOKE MILLS.

1. LETTER FROM MR. WYNDHAM PORTAL.

Laverstoke Mills, Micheldever,
Hants, October 27, 1866.

SIR,

I BEG to state that I am a candidate for the prizes offered by the French Government for the new "order of merit," under the provisions of Group IV., Art. 30-36.

I am the proprietor of the Laverstoke Mills, in the county of Hampshire, where for nearly 150 years my family have been the manufacturers of the Bank of England note paper.

In this manufactory about 100 persons are employed.

Several of the families have worked in these mills for three generations in succession.

The houses in which the workmen reside are mostly on the premises, and are of a superior kind, those for families containing three bedrooms, with useful and suitable offices, all having good gardens, besides allotments of land.

For the lads and boys there are sleeping apartments partitioned off and separate for each, with a lavatory and sitting room for their use, all being under the superintendence of a respectable married couple.

The children of the workpeople resident on or near the premises are educated in a good school, under Government inspection, supported

Names.

LAVERSTOKE MILLS—*cont.*

partly by their own weekly payments, and the remainder at the sole cost of the proprietor's brother.

The adults are encouraged to form evening classes, wherein some of the more advanced in the mills are the gratuitous teachers.

The spiritual wants of the people are amply provided for by a minister residing close to the premises.

There is a reading room for all, with a library attached.

Periodicals and serials are taken in. "Penny Readings," concerts, &c. take place at stated times during the winter in connexion with the mills.

Games also of chess, draughts, dominoes, solitaire, &c., are provided.

In the summer the game of cricket is largely encouraged.

Before admission into the manufactory, each workman must pass an elementary examination in reading, writing, &c., and must also produce satisfactory and reliable testimonials as to character, &c., from a minister or some other respectable person.

The manager and as many of the work people as possible are, in addition to their fixed salaries and wages, paid a per-centage upon the results of their work.

Every workman or lad in regular employment makes provision for himself in sickness, old age, or deaths, either,—1, by investing in the Post Office or other savings bank, or 2, by being a member of some provident friendly society. In addition to this, the proprietor has for many years past had a fund, whereby superannuated workmen receive a pension for the remainder of their lives, and a sum of money is also given upon their death.

There is a kitchen attached to the mills, and a hot meal is attainable by every one at the dinner hour at cost price. Dining halls are provided for the men and also for the women, with a lavatory attached.

Illustrated papers and journals are circulated in the workrooms and also in the dining halls.

The mills are closed at an early hour on Saturdays for the benefit of the workpeople, and whole holidays are frequently granted to all on festive and other occasions.

The number of persons discharged from my service does not exceed 3 per cent. per annum.

I submit that I have in my establishment, developed a spirit of harmony among all those co-operating in my work, and that I have provided, as far as has been found practicable, for the material, moral, intellectual, and religious well-being of my work people.

I have the honour to remain,
Sir,
Your obedient and humble servant,
WYNDHAM S. PORTAL.

To the
Councillor of State,
&c. &c. &c.,
General Commissioner,
Paris Exhibition, 1867.

2. ACCOMPANYING STATEMENT.

The establishment was founded in the year 1719 by Henri Portal, a French refugee, flying from the persecution consequent on the revocation of the Edict of Nantes, and a direct ancestor of the present proprietors. About the year 1725, Bank of England note paper was first made here, a manufacture which has continued from that time to the present to be almost exclusively the employment of the mills.

There is no monopoly of any kind. The proprietors are, as it were, "tenants at will" of the custom they possess, and owe their present relationship to the Bank of England solely to the mutual confidence which has for so long a period (nearly a century and a half) existed between the Bank of England and the proprietors.

The mills are situated on the river Test, in Hampshire, the waters of which as a moving power have been turned to good account in the machinery. The mills were almost entirely re-built in 1854 by the present proprietor, when special pains were taken to make the workrooms commodious and healthy. Attention was paid to their ventilation and temperature, as well as to such arrangements as should provide for the due classification of the sexes, &c.

Employment in the mills is much sought after in the neighbourhood

Names.

LAVERSTOKE MILLS—*cont.*

and the number of applicants for work is at all times greater than can be engaged.

The number of persons employed averages about 100 throughout the year. The principal part of them live in cottages belonging to the proprietors close to the mills. The manager and the foremen reside amongst them. The cottages vary in size according to the requirements of the families. Many of them have been built within the last few years, and they all have gardens attached to them, besides additional field allotments if their occupants desire it. The houses are inspected half-yearly for the purpose of keeping them in good repair.

If any lads are employed whose relatives live at a distance, they are provided with lodgings close to the mill. A sleeping apartment for each lad is here so partitioned off as to be private, and a lavatory and other conveniences found them. They have the use of a sitting room in common, and are under the superintendence and care of a respectable married couple. As a rule, no unmarried females are employed, unless they live with their relatives, and if there is any exception to this rule (as at present there are two, one of whom is deaf and dumb,) they are respectably lodged in the village.

The number of working hours for the women averages only seven per day; they are enabled therefore to attend to their domestic duties without difficulty. An important provision is made that young females shall not be permitted to work alone; they are always in company with others of their own sex, and the workrooms and premises are so arranged as to ensure ample supervision by the foremen and heads of departments. Every workroom or department has its own responsible "head" or "overlooker."

There are two dining rooms, one for men and the other for women, to which they repair for their meals. There is a lavatory and a kitchen adjoining, that soup or a hot dinner may be supplied to those who wish for it at the cheapest possible rate.

Illustrated papers and periodicals are circulated in these dining rooms, and also throughout the workrooms, of which, during their spare time, the people avail themselves much.

There was an almost entire absence of employment for the work people during the years 1822 and 1839 owing to a superabundance of stock, but on the resumption of work in the following years all who had been discharged were re-engaged. There have been several instances of families having worked in these mills for three generations in succession.

The total number of persons discharged has not for many years past averaged more than 2½ per cent.

It was the custom in earlier days that a sum of money should be given to the work-people at Christmas time as "beer money" and "feast "money." This having been found to be wasted or spent in drinking, an arrangement has within the last few years been made with the full and entire consent of the workmen to convert this money into a fund —1st, for superannuation; 2ndly, for accidents; and, 3rdly, for burial.

It is one and an important result of the system adopted, that "no "special arrangements have been found necessary for the promotion "of temperance."

In answer to a question put to him on this subject our manager states—"We have no knowledge of any of the work-people having lost a "day's work from intemperance." Our head foreman remarks—"We have no trouble on this head, for we have never had to part "with any of our work-people for many years through intem-"perance."

The manager and his wife take an active interest in all that concerns the work-people and their families, and many acts of kindness are done by them in times of sickness and distress. The foremen also are agents for good according to their opportunities. In this manner a good feeling has been produced, and pervades all who are employed.

To sum up our advantages, we have had—

Entire freedom from strikes and dissensions.

We have a saving, thrifty, and temperate people.

A large proportion of the children under instruction.

A low poor's rate.

Names.

LAVERSTOKE MILLS—*cont.*

A low death rate.
A low average of illegitimate births.
A low average of persons discharged.
And, as we have every reason to believe, a happy, prosperous, and contented people, attached to and seeking the welfare of their employers.
We trust that these statements will be verified by a personal inspection of our establishment.

WYNDHAM PORTAL,
ROBERT PORTAL,
Proprietors.

ABSTRACT FROM ORDER BOOK.

Porter's Lodge.

83. A book, &c. to be kept by the porter in which is to be entered the name of every person coming in or going out of the mill premises with the hour also, this book &c. to be brought to the office daily.

Leaving Service.

22. Any person leaving his or her employment without giving the usual fortnight's notice, and working the fortnight will thereby forfeit any wages which may be due to him or her.

Wages.

21. In consequence of errors having occurred in the payment of wages, it is desired that henceforward every person shall keep an account of his or her own work.

Boiler Inspection.

24. It is this day ordered that a half yearly inspection of the two steam boilers shall be made and a report thereof written by the person making the inspection as to the state in which each is found. Also that a copy of this be hung up in the boiler house as a memorandum that the above order be acted upon.

Engineer Machinery.

9. In order to secure the engineers from possibility of injury during the oiling, greasing, repairing or shifting straps, it is hereby enjoined that no operation of any kind be performed in any part of the machinery during the time the machinery is at work, no person other than one of the engineers is permitted on any account whatever to touch any part of the machinery.

Engineer.

13. The engineer is on no account to leave the engine room, whilst either the "washer" or "beater" is at work, but should he be necessitated to leave he is to take off the engine straps, or leave his assistant in charge.

Rewards.

14. The rewards which have hitherto been given to the vatman, &c. for the per-centage of broken under 10 per cent. are from the commencement of this quarter, to be paid for the per centage 8 per cent, and those for under 12 per cent. are to be paid for under 10 per cent.

Holidays.

2. It is agreed between the proprietor of Laverstoke mills and the workpeople to transfer a part of the Christmas holidays to some time in the preceding summer, as may be most convenient to the proprietor and the majority of the people employed.

Fire Brigade.

73. The fire engine to be worked on the first Monday in each month, and the brigade, with all hands to be exercised in the working of it.

LONDON DRESSMAKING CO.

1.—RULES OF THE HOUSE.

1. Every workwoman is expected to attend family prayers at 7½ a.m. and 10½ p.m.
2. Work to begin at 8½. No workwoman is required to work for more than 10 hours a day. The hours for rest, meals and work, being subject to the regulations of the committee.

Names.

LONDON DRESS-MAKING CO.

3. The temperature of the workrooms to be kept as nearly as possible at 64°; the ventilators to be set open night and day both in the work-rooms and dormitories. The windows on the back staircase also to be left open day and night, unless the weather be very severe.

4. Every workwoman is expected to send her washing according to the list and rate provided by the superintendent.

5. The workwomen are required to keep the dormitories in order. All clothes to be placed in the drawers, cupboards, or boxes prepared for them.

6. The use of the bath is allowed to each workwoman once a week.

7. There is a medical man appointed to attend the household in case of illness. Any inmate suffering from indisposition is requested to report the same to the superintendent.

8. No workwoman is to go out without leave from the superintendent or leader, and all inmates are expected (except with special leave) to be at home by 10½. Arrangements will be made at stated times for mid-day walks.

9. Pews will be provided for such of the workwomen as are members of the Church of England, and all are expected to attend Divine Service on Sunday morning; after which, with leave from the superintendent, they may go out until 10½ p.m. Meals and a comfortable sitting room will be provided for those who prefer to remain at home.

10. The ladies sub-committee will visit the house weekly, and any communications may be made to them by the persons employed. The superintendent is empowered by the committee to enforce these rules, and will be held responsible for the cleanliness and airiness of the house, and for the comfort and good conduct of the inmates.

The above rules having been framed with the view of promoting the moral and physical welfare of the workers, it is hoped that every inmate will do her best to see them carried out, and by a cheerful obedience to them secure the harmony and happiness of the household.

NEW EAGLEY MILLS.

The following STATEMENT relating to NEW EAGLEY MILLS, near Bolton, is submitted by the Proprietor, HENRY ASHWORTH.

Previous to the year 1817 the first portion of this establishment was a small factory for cotton spinning, turned by a water wheel of about 10 or 12 horses' power, and was giving employment to about 50 hands.

The factory is situated upon a stream of water called the Eagley Brook, which is one of the tributaries of the River Irwell.

The mill is standing in a narrow valley where the townships of Little Bolton and Turton unite, and is almost immediately adjoining Hall-'ith-Wood, the residence of Samuel Crompton, the inventor of the spinning mule, and is approached only by private roads.

In the year 1818 the present proprietor took charge of the concern on behalf of his father and his uncle, and they allowed him a profitable interest in the business until their retirement in 1831.

The establishment then fell into the hands of the present proprietor and his brother, Edmund Ashworth, and remained in their joint possession until the year 1854, when Edmund Ashworth retired.

The Jury require to be supplied with "historical information which "may serve to characterize the origin, development, and prosperity of "the undertaking," together with "detailed statements relating to the "social and material condition of those employed."

In compliance with the foregoing stipulations it may be necessary to particularize somewhat minutely. The above-named works have been greatly enlarged. They are erected on the estate of the proprietor, where he himself and a large proportion of his workpeople are residing. The cottages he has erected for his workpeople are stone-built, having two storeys, and for small families two upper rooms are used as bed-rooms. Those intended for larger families, requiring separate sleeping rooms for young people, have three bed-rooms, and in a few instances, four. They have on the ground floor a sitting-room, a living-room, as it is called, for ordinary use, and a scullery for washing, &c., &c., with a walled courtyard enclosing the whole premises.

The proprietor pays the poors-rates and other local charges, and sup-

Names.

NEW EAGLEY MILLS—*cont.*

plies every house with a water tap. The rents including these charges vary from 2*s.* 4*d.* to 4*s.* 3*d.* per week. *See* Appendix.

There is neither tavern nor beer-house upon the property nor within the distance of about a mile from the works.

Schooling in a small way by mutual instruction was commenced from the first, and about the year 1825, by reason of the enlargement of the works, and consequent increase of the population, a day school was opened for children, which was used as an evening school for the older ones as well as a Sunday school.

A strong desire became manifested for educational improvement, and a good many young persons attained considerable proficiency.

It may be remarked that at that time the idea of a day school becoming an appurtenant to mills or works, had only been heard of at Mr. Owens, Lanark mills in Scotland. In Lancashire the working class were mostly untaught and the education of them was deemed an experiment of doubtful if not dangerous tendency. Many years afterwards when individual experience had pointed out the way, the Legislature provided by enactment for the education of children as a condition of their employment in factories.

Misgivings were not unfrequently expressed, that the zeal and expenditure thus being incurred by Messrs. Ashworth might one day be turned to their own annoyance and pecuniary loss. In one instance only did this prognostication ever appear to have become verified. A young man of considerable talent who when a child had been removed to the factory from a neighbouring workhouse, had made rapid progress at school, especially in arithmetic, and when a strike of the workpeople happened to take place in 1830, he became very officious as a leader. The strike was however defeated by the employment of new hands, and it was attributed to him or through his influence that the new hands were brutally assailed at midnight by an infuriated mob, and by way of termination of their riotous proceedings this assemblage demolished the windows of the school.

The proprietors might naturally feel deep mortification at the exhibition of such a resentful spirit, but they could not conceive of any other means more effectual than that of schooling for the removal of such ignorant infatuation, so they had the damages repaired and endeavoured to increase the efficiency of the teaching.

The continued extension of the works and increase of population again necessitated the enlargement of the school accommodation, and when this was being provided, suitable arrangements were also made for news room, lecture room, library, and for the performance of divine worship.

A few years ago a cricket ground was provided for the use of the workpeople, which has afforded to the young men a most enjoyable recreation.

Many of the parents have expressed how much gratification they felt that by reason of the isolated situation they enjoyed as a community and the advantage of the education and training thus derived to the young, they had become so completely separated from the corrupt influences of music saloons and drink shops.

In a great many cases the heads of the families had previously been engaged in hand-loom weaving or in some pastoral occupation, and it has been abundantly manifested that in course of time the exercise of mind in the details of a new pursuit has awakened their intelligence, and their demeanour has indicated marks of higher cultivation.

The regularity of their employment accompanied with payment of money wages every Friday night has doubtless promoted a feeling of local attachment to the place. Many of the descendants of the first comers remain on the spot, the social relations have been promoted, intermarriages have been frequent, cases of illegitimacy scarce, and during the whole period there has not been any prosecution for theft.

Great numbers of the workpeople are known to possess reserved funds in savings banks and other depositories, and there are others of them who have invested their money in cottage building and in various other ways.

The proficiency of many in the practical knowledge of their pursuit has enabled them to rise from the ranks of labour and to become mill managers.

About 30 of these have been reckoned on the spur of the moment, and 10 of them have become business partners or proprietors of mills.

One branch of the inquiry extends to the prosperity of the undertakings. The prosperity as arising to the proprietors will be admitted.

Names.

NEW EAGLEY MILLS—*cont.*

It may be unnecessary to remark that no special advantage has been derived to the business from cheapness of labour, as the rate of wages paid throughout the district is uniform, and is mostly reckoned by the pound or by the yard.

The organization and arrangement of the works and the intelligence of the workpeople have had a sustaining effect in upholding a trade estimation for their productions, and has aided in promoting the continued operation of the works during the manifold changes and painful vicissitudes to which the cotton manufacture has been so frequently exposed.

The measure of success to the Proprietors may be estimated by the increase of the establishment from that of 10 or 12 horses power to the employment of 130 horses power, and from 50 hands to the employment of 700 hands, together with the addition of another and larger establishment, called the Egerton mills, originating from this as a parent concern which is now possessed by Edmund Ashworth since he retired from the partnership.

The foregoing statement would admit of being largely amplified, but the proprietor shrinks from doing it.

He is cheered in the consciousness of having endeavoured to promote the welfare of those he has employed, and is rejoiced in the attendant success.

HENRY ASHWORTH.

P.S.—No one will doubt that in promoting this inquiry the Emperor has manifested a commendable desire for successful examples of proprietors who have promoted the "material, moral, and intellectual well-being" of those they have employed. Unfortunately he appears not to have understood the reluctance of the generality of that class of employers to become arrayed in competition with one another for a pecuniary reward by making public any disclosure of what they may have done. Many manufacturers are to be found who have done a great deal to ameliorate the condition of those they have employed, and no one will doubt that they have been prompted not by hopes of gain but by emotions of good will. They have known how highly such attention was appreciated by the workpeople themselves, and hence it will be apparent, that information of this nature, had it been applied for by the Emperor, would have been forthcoming most cheerfully as a means of extending the example.

H. A.

WEEKLY EARNINGS of the following families in the employment of HENRY ASHWORTH, New Eagley Mills, January 1867.

No. of Children.	Workers.	Earnings.	Parent's Earnings.	Total.
		£ s. d.	£ s. d.	£ s. d.
5	4	1 12 0	2 0 0	3 12 0
7	3	0 16 6	1 18 0	2 14 6
3	3	2 11 0	1 8 0	3 19 0
5	4	1 14 0	1 6 0	3 0 0
6	4	1 12 6	1 10 0	3 2 6
8	4	2 3 0	1 12 0	3 7 0
8	5	2 14 0	0 18 0	3 12 0

Workmen.—Wages from 17*s.* to 2*l.* per week.

Single Women.—Several weavers average 21*s.*

Rent of houses from 2*s.* 4*d.*, 2*s.* 9*d.*, 3*s.*, 3*s.* 4*d.*, 3*s.* 9*d.*, 4*s.*, and 4*s.* 3*d.* per week, all clear from rates, &c.

Spinners' Sick Club.—Each member subscribes 6*d.* per week; sick allowance, 9*s.* per week. Death, 4*l.* for husband or wife; child, 2*l.* Balance, if any, divided twice a year; if subscription does not at any time meet demands, a levy is made to cover it.

Illegitimate births, four during the last two years.

Schools will hold 320 pupils comfortably. Pupil-teachers at present, two, sometimes three or four. Highest number of scholars on the books, 292.

Names.

NEW EAGLEY MILLS—*cont.*

—	No. of Children under 13 Years of Age.		Young Persons 13 to 18 Years of Age.		Persons 18 Years of Age and upwards.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	
Mill - -	68	27	25	20	64	46	250
Weaving Shed	24	47	25	84	77	202	459
	92	74	50	104	141	248	709

Married Females employed in weaving shed - 50
" " in spinning mill - 11
Total 61

PANMURE WORKS.

1. EXPLANATORY STATEMENT.

Panmure Works, Carnoustie, Forfarshire, Scotland, were partially erected in 1857-58, opened in August 1858, and completed in 1865-66 at a cost of about 40,000*l.* The works contain 400 power-looms, with the necessary finishing machinery, and the goods made are either wholly linen, or mixtures of linen, cotton, and jute, a considerable portion of the jute yarns being imported from France. The machinery is driven by steam-power.

Description of the works.

Class of manufactures.

From 1858 to 1863 about 300 persons were employed, and at present there are 530.

Number of operatives employed.

During 1866 nearly six millions of yards were finished and disposed of to the United Kingdom and the various foreign markets of the world.

Production in 1866.

Dwelling Houses.

From 1858 to 1862 dwelling-houses for our work-people were erected by the firm, containing accommodation for 30 families, and single furnished apartments for young females, under the supervision of the heads of families occupying the adjoining rooms, at a cost of 3,600*l.*

House accommodation, see enclosure No. 2.

Single female apartments.

Self-contained Cottages.

From 1863 to 1866 we have built 30 self-contained cottages of three apartments each, at a cost of 4,200*l.*, and we are still proceeding to erect additional ones. Each has the necessary outhouses, and sufficient ground for garden purposes. Plans are herewith transmitted.

Cottages of three apartments with outhouses and garden ground. See enclosure, No. 3.

The sewerage and drainage have been made as complete as possible, and are carefully examined by one of the partners every week.

Sewerage inspected weekly.

The average rent per week for three apartments is 2*s.* 2*d.* (two shillings and twopence), and for a young female in the single furnished apartment 6*d.* (sixpence).

Rents charged.

The rental yields a net return of 4¼ per cent. per annum.

Net return per cent. on the cost of dwelling houses and cottages.

Panmure Works Institute.

Though from the commencement of the works in 1858 it had been the intention of the firm to erect for their work-people such a building as would afford them the means and opportunity of enjoyment and recreation, as well as enable their employers to carry out their designs for the promotion of the mental and moral welfare of their employées, it was not until 1863 that they felt themselves in a position to proceed with it. The prosperous years of 1863 and 1864 enabled us to carry out our design on a more extensive scale than we had at first contemplated.

Origin of the Panmure Works Institute.

PANMURE WORKS—*cont.*

Previous to the opening of the institute there had been in connexion with the works a reading room, partially supplied with newspapers by the firm; a library, the nucleus of which was formed by the gift of about 100 volumes of standard English works from the partners; a penny savings' bank, the trustees and officials of which were appointed by the workers; and a male and female yearly friendly society.

Work carried on previous to the erection of the institute.
Reading room.
Library.
Penny savings' bank.
Male and female yearly friendly society.

Building of Institute.

The building of the institute was commenced in 1864, and finished in 1865, at a cost of upwards of 1,600*l.*

Building of the institute commenced.

We give the following description extracted from the Dundee newspapers:—

"The institute building occupies a very prominent site on the right of the entrance to the works, and is surrounded on all sides by the cottages and dwellings of the work-people. The building shows a front to the north, a public street, in the Italian style, having at the prominent angle a slight projection, which is carried up above the main building as a tower or campanile. A corresponding projection occurs at the other or western extremity of the front. In each of these, and also in the central division, there is an arched doorway, the one under the tower leading to the hall, which is on the upper floor, while the others give access to the apartments on the ground floor. Over the centre doors are three large arched windows, and the whole front is surmounted by a suitable cornice and blocking.

Description of the building, see plan, No. 4.

Passing to the interior, we find that on the ground floor a corridor runs lengthways along the building, having on the one side a library and reading room, and on the other class rooms for males and females, together with accommodation for the keeper. At the end of this corridor a private stair leads up to the platform. The hall occupies the whole area above, and is a fine room, 68 feet long by 38 feet wide, lighted with windows all round, and having a roomy and convenient platform at the south end, over which now hangs the portrait of Mr. James Smieton. The hall is lighted at night by two very handsome gasaliers, and the whole area being free of pillars or other obstacles, is in every way well adapted for public assemblies of every kind.

Opening of the Institute.

The institute was formally inaugurated on the evening of 29th December 1865, when the Right Honourable the Earl of Dalhousie presided. Copy of the programme herewith transmitted. We cannot better describe the feeling existing between employer and employed, as expressed on this occasion, than by referring to the proceedings of the evening as publicly recorded in the two daily newspapers of 1st January 1866, which are herewith transmitted; in short, any statement we could make of the circumstances connected with the opening of the institute could not be other than a synopsis of these public records.

Institute formally opened, see enclosure No. 9.

See enclosures 10 and 11.

We may add that our engineers and tradesmen respectively presented the institute with a harmonium and pianoforte, both of the most substantial description.

Gift to the institute by engineers and tradesmen.

In Mr. T. A. Smieton's speech on the occasion referred to, the work purposed to be carried on was minutely described, and during the year 1866 the programme then announced has, with very little alteration, been adhered to.

Work carried on.

The lady superintendent opened the female classes on the 8th January 1866; from 10 a.m. to 2 p.m. she is daily engaged teaching the young girls under 13 years of age employed at the works; and during four evenings in the week, from 7 to 8.30 p.m., she has classes for girls above 13 years of age, divided into senior and junior classes, each of which meets two nights weekly.

Female classes.
Morning.
Evening.
Two divisions.

Names.

PANMURE WORKS—*cont.*

Attendance. The average attendance of these classes during 1866 was 120.

Branches taught. The branches of education taught were English reading, Bible lessons, history, geography, writing, arithmetic, sewing and sacred music.

Social meetings. Every alternate Wednesday evening during the spring months there were what may be termed industrial social concerts, when the whole of the girls employed at the works were invited to come, and to bring with them sewing and knitting work, in which Miss Bayne, assisted by one or other of her sisters, gave them instruction. The entertainment consisted of readings from various popular authors; music, both instrumental and vocal, in which not only the partners and their families, but the principal ladies and gentlemen residing in the locality, cheerfully co-operated.

Character of the entertainments.

Attendance. The average attendance at these entertainments was about 160.

Closing of first session. The session was closed at the end of June, when the senior partner personally examined the classes, expressing himself much satisfied with the progress made.

Classes resumed. The classes were resumed on 1st October, and are now being carried on in the same manner as last session, with the addition of a special musical class held every alternate Wednesday evening, conducted by a professional musician.

Musical class added.

Male classes. The male classes, conducted by Mr. Kyd, were opened on 22nd January, and were continued until the end of May 1866, when they were suspended till October.

First session closed and resumed.

Branches taught. The branches taught were English reading, history, geography, writing, and arithmetic.

Attendance. The average attendance was 24. The classes meet four times a week, from 7.30 p.m. to 9 p.m.

New class for chemistry and natural philosophy. During the present session it is intended to form a class for the study of chemistry and natural philosophy.

Course of public lectures. In the spring of 1866 we had a course of public lectures on various interesting subjects delivered by clergymen of various denominations in the vicinity, open not only to our work-people but to the public on payment of a small charge, the free proceeds being devoted to the library. The average attendance was about 300. These lectures were resumed in November, and are still progressing very satisfactorily. Programmes of the course are herewith transmitted.

Attendance.

See enclosures, Nos. 5 and 6.

Debating Society.

Debating society, see enclosure No. 7. A debating society was organised on 12th January 1866, and shortly afterwards opened by an introductory address by our senior partner, Mr. T. A. Smieton. It now numbers 22 members, and is the source of much enjoyment and instruction. Copy of the laws transmitted herewith.

Library.

Library. The library, which is entirely under the management of the male operatives, subject to the firm's reserving the power to veto the introduction of any book (which has only once been exercised), now contains 650 volumes, and is open at stated hours to the whole of the operatives. A voluntary collection is made annually by the work-people to defray the expenses incurred for binding and purchasing books, to which is added the free proceeds of the public lectures, and the letting of the hall of the institute for public purposes. We have every reason to be satisfied with the interest taken in, and the general use made of, the library.

Voluntary annual collection.

Reading Room.

Reading room. Immediately adjoining the library is a reading room, which is supplied by the firm with five daily and five weekly newspapers, draught and bagatelle boards, &c., open to all the adult males in our employment.

Penny Savings' Bank.

A penny savings' bank was organized in 1862 in connexion with the works, but since the opening of the institute its progress has been more

Names.

PANMURE WORKS—*cont.*

Penny savings' bank, see enclosure No. 8.

satisfactory. The total number of depositors in 1866 was 291, number of separate deposits 2,214, and amount of deposits 74*l.* 14*s.* 7*d.* It is the usual practice for the work-people to remove their deposits to the Government Post Office Savings' Bank when they amount to 20*s.*, and then begin again. A blank depositor's book herewith transmitted.

Male and Female Yearly Society.

A male and female yearly society in connexion with the works has been in existence for seven years, and copy of the rules is herewith transmitted. In 1866 the number of members was 205, of which 84 were males and 121 females. Total sum collected, 536*l.* 15*s.* 6*d.*, of which was paid to sick members, 35*l.* 5*s.* 5*d.*, and for burial expenses, 9*l.* 10*s.*; the balance being distributed amongst the members in accordance with the regulations of the society.

Male and female yearly society, see enclosure No. 12.

Sunday School.

A Sunday school was opened in 1866, conducted by the manager and overseers, and held in the afternoon, attended by about 30 children, but the great bulk of the workers and their children naturally prefer attending the schools and Sabbath classes connected with the various congregations to which they belong, several of which are in the immediate vicinity of the works.

Sunday schools, &c.

Generally there is evening Divine service held once a month in the hall of the institute, conducted by one or other of the neighbouring clergymen, at which the attendance is from 400 to 500.

Divine service in the Institute.

The entire expense of maintaining and carrying on the work of the institute, which last year amounted to 240*l.*, is defrayed by the firm.

Expense of the institute defrayed by the proprietors

The lady superintendent of the institute has in addition the higher duty of visiting, watching over, and comforting the sick belonging to the works, and likewise takes a general superintendence of all the young females who do not reside with their families.

Duties of the lady superintendent of the institute.

It is yet too soon to express our opinion as to the permanent success of the institute, but we are not aware of any public work in the county having a better class of operatives, either in a physical, intellectual, or moral point of view.

The low rate of mortality amongst them we cannot altogether attribute to what we have done for them in the shape of dwelling houses, &c., and other sanitary arrangements, as the village has great natural advantages, and in summer our work-people have the privilege of excellent sea bathing; we cannot, however, refrain from expressing the pleasure it gives us to refer to the satisfactory statistics regarding the state of morality amongst those in our employment.

Dundee, January 28, 1866. JAMES SMIETON & SONS.

Certified by Daniel Walker, Sub-Inspector of Factories for the Eastern Division of Scotland.

2. Rules to be observed by those employed.
3. Elevation of two storey tenements erected by the firm.
4. Plans and elevation of cottages erected by the firm.
5. Plan and elevation of Panmure Works Institute.
6. Prospectus of lectures at Panmure Works Institute.
7. Laws of Panmure Debating Society.
8. Bank book of Panmure Penny Savings' Bank.
9. Programme of the inauguration of the Panmure Works Institute.
10. Extract from newspapers.
11. Rules and regulations of the Carnoustie Male and Female Yearly Society.

PEEK, FREAN, & CO.

1. LETTER FROM FIRM.

Biscuit Works, Dockhead,
London, Nov. 30th, 1866, S.E.

SIR,

We send herewith copies of the Rules of our Works, also of the Sick Clubs in connection therewith, and underneath we give a few

Names.

PEEK, FREAN, & Co.—*cont.*

particulars by which we hope to show that we are not out of place in asking for enquiry respecting the spirit of harmony prevailing amongst our work-people, for whose well-being, materially, morally, and intellectually, some provision is made.

All employées in the factory belong to sick clubs, from which they receive relief in sickness according to their contributions, regulated by their rate of weekly wages.

During the year 1865 240*l.* was thus disbursed by members of the Committee, whose services are rendered gratuitously.

All cases of sickness and accident are visited not only by a member of the Committee, but also by a gentleman of great discernment, well qualified to administer relief and to give kind and judicious advice when needed.

Gratuitous evening instruction is provided for such as wish to avail themselves of the privilege. Many have made great progress, and by their regular attendance show their desire to be improved.

Some of the younger people attend a Sunday school conducted by those clerks of the establishment who take an interest in such movements. This school is provided with a library containing books of general interest, which are eagerly read by the scholars.

Occasionally a lecture is delivered on some popular subject, or an evening is occupied by readings, recitations, and vocal and instrumental music.

An excursion to the seaside annually is an institution with us anticipated with much interest, and has hitherto been a source of great pleasure to all concerned.

As employers we feel proud of the manner in which the behaviour of our work-people is uniformly spoken of on these occasions. Their sobriety and good conduct have always been the subject of very general remark in the towns to which they have gone, and on the last two holidays have been favourably referred to by the chief magistrates, who on those occasions presided at the evening meals.—See Reports of visits to Dover and Ramsgate sent herewith.

At Christmas there is a tea party for all in our employ. This occasion is also one of great pleasure and real enjoyment; games and amusements of various kinds being entered into with great zest by all ages.

Should your Committee think it desirable to depute some one to spend the evening with our work people in about four weeks' time we shall have much pleasure in introducing him to them.

The British Workman and Band of Hope Review have been supplied gratuitously every month during a period of more than seven years' to every one employed.

A gymnastic class for clerks receives lessons weekly, and the members exercise themselves much to their welfare and amusement. It is intended to extend the gymnasium to workmen and lads as soon as convenient arrangements now in progress can be completed.

The boys of the establishment are every Monday morning supplied with a clean jacket, cap, and apron (to be worn by them whilst at work), which are provided, repaired, and washed at the expense of the firm.

Young women are twice a year supplied with good material for dresses at prime cost, for which they pay one-third on receipt of the material and the remainder by weekly instalments.

Four times a year the position of all passes under consideration, with a view to the promotion of the deserving.

Wages are paid weekly on Friday evening, so as to allow of early marketing on Saturdays.

Saturday half holiday is much valued, as it enables those who wish to do so to enjoy recreation without interfering with the due observance of Sabbath.

There is no absenteeism on the Saturday or Monday.

Cases of drunkenness are of very rare occurrence; we cannot remember any instance during the present year.

There never has been the least approach to anything like a strike; this, considering the many hundreds we employ, is to us a matter of sincere congratulation, and on this ground among others we set up our claim for one of the medals to be awarded, believing that the conduct of our business will favourably compare with the great majority of works of the same magnitude.

PEEK, FREAN, & Co.—*cont.*

Should there be any act of irregularity it is brought before a member of the firm, who devotes a portion of each Friday morning to the investigation of such cases, all parties then having an opportunity to state their view of the case. This arrangement, in connection with our manifested solicitude for the well-being of the employed, contributes very largely to the prevailing harmony and pleasant conduct of our business.

There is great satisfaction with all our arrangements. We have thus attempted to give a concise view of our mode of dealing with our work-people, and shall feel great pleasure in giving further information to your Committee should they desire it.

We invite the fullest investigation,

And are, yours respectfully,

To the Secretary, Paris Exhibition. PEEK, FREAN, & Co.

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2. Extract from newspapers concerning annual excursions of work-people.
3. Rules of the Factory Sick Club for women and girls.
4. Rules of the Factory Sick Club for men and boys.
5. Rules for the foreman of works.
6. Rules for the work-people (men and boys).
7. Rules for the work-people (women and girls).
8. Circular concerning banking account between firm and those employed.
9. Plans of establishment.

RANSOME & SIMS.

1.—SUPPLEMENTARY STATEMENT.

PREFACE.

In the compilation of this narrative it has not been thought right to withhold, from considerations of delicacy, any facts or statements which have a bearing on the important object aimed at by the founders of this new order of reward, viz., to obtain authentic information as to what may have been attempted by employers to improve the moral and social condition of the working classes, and to exhibit the results of successful efforts for promoting and sustaining through a long series of years their relations to each other, in harmony and good will, to mutual satisfaction.

In this the compilers have felt the less restraint, because whatever of merit fairly attaches to the establishment is more especially due to the earlier partners, now removed by death, and whose labours inaugurated the system, which it has been comparatively easy for the existing members of the firm to continue, and as they trust successfully, the development of the principles established by their predecessors.

It should be mentioned, as affecting the numbers and amounts entered in the schedule, in reply to the questions, that the endeavour has been made to obtain returns as accurate and complete as possible. The inquiries, in some instances of a rather delicate nature, have involved some difficulty, and it is known that some of the replies are understatements, and believed that almost, if not all, which involve figures and amounts, are so.

Question 29.

Sick Allowances, etc.—From the commencement of the business the condition and wants of the workmen have been objects of solicitude to the firm. In the earlier days of its existence, when the workmen employed were comparatively few in number, and even to a recent period, when the tens of workmen had increased to hundreds, the senior partners spent as much time as they could spare in personal visits to sick workmen. Subsequently, when it had become impossible, for various reasons, for the partners to discharge this duty which they had taken upon themselves, an efficient system of visiting agency, with weekly reports relating to the sick or disabled, has been arranged, and continues in operation.

As regards means for the pecuniary relief of workmen during sickness, and for providing sums payable at the death of workmen and workmen's wives, the firm at a very early period established a fund to be maintained mainly by the workmen themselves, after its first institution, upon the mutual assurance principle.

Names.

RANSOME & SIMS—*cont.*

The relief society, or "Old Sick Fund," was established in 1817 for the benefit of the workmen. The masters were the treasurers of the society, the affairs of which were managed by a secretary and four stewards The weekly contributions of the fund varied from two-pence to eight-pence, and the benefits during sickness, from 4*s.* to 16*s.* per week, in proportion to the contributions. On the death of a member, a sum of money was contributed for funeral expenses by a subscription of 1*s.* per member. In case of the funds falling short, a rule provided that the masters should advance a sum of not exceeding 20*l.* of which they remitted 25 per cent., In case of the year's subscriptions falling short of the demands. The funds were divided amongst the members at the end of the year, according to the amount of their respective subscriptions. No member was entitled to benefit from injury received from "getting into brawls, fighting, or other similar practices." Intoxication, or the undue frequenting of public houses, was "a sufficient ground for a total or partial suspension of benefit from the fund." Workmen leaving the employment of the firm received such share of their contributions as was considered fairly due to them. For copy of the rules of the "Old Sick Fund," or relief society, see Appendix C.

Subsequently to the formation of the society referred to, numerous others have been formed for the benefit of the men employed at the Orwell Works, and are now in active operation. Amongst these are—The Accident Fund, The Friendly Society, The Machine Shop Sick Fund The Smiths' Shop Sick Fund, The Foundry, The Foundry Fitters', The Park (or Timber Yard), and the Agricultural Fitters' Relief Funds. Specimens of the rules of these shop relief societies are given in the Appendix C (2) &c.

The Accident Fund is the only one connected with the works to which payment is compulsory. One penny per week being contributed by each man employed at the works, and a halfpenny by each boy. Formerly, in cases of workmen being disabled by illness or accident, the manager, in immediate connection with the men, was accustomed to make collections in aid of the workmen, some of whom not being eligible for admission to Benefit Societies on the mutual principle more especially requiring it. This plan was found unsatisfactory in several respects: it involved considerable time and trouble; sometimes the man on whose behalf the collection was made was little known or cared for; or on the other hand, was very well known and a favourite, and the result of this collection was often out of proportion with the merits of the case. And again, the contributions of the particular workmen were not always in fair proportion to their ability; some men, with comparatively low wages, and with families, giving more than men much less straitened in their means, while some gave nothing at all. At a full meeting of all the workmen, objections to the collection of voluntary offerings were briefly stated, and the adoption of the Accident Fund was determined upon. Rules substantially as they are now in operation, including the uniform weekly payments of 1*d.* for men and ½*d.* for boys, were adopted. The fund has ever since been administered to the entire satisfaction of all concerned. The chairman and secretary of the fund are appointed by the firm. The committee consists of the foreman of each of the different departments, and a few of the workmen from each shop in proportion to the whole number employed in their respective departments. In cases of illness or accident, the foreman of the department to which the invalid belongs reports the case, and the other members of the committee decide upon the relief to be granted.

The Friendly Society consists of workmen whose wages must amount to at least 20*s.* per week. Admission is by ballot by the members. The contributions are 1*s.*, 8*d.*, and 4*d.* per week, and the relief during sickness 15*s.*, 10*s.*, and 5*s.* per week respectively for three months, with reduced payments for further periods in case of continued disability for employment. The sums paid on the death of members or members' wives are—1st class, for a member, 6*l.*, for a member's wife, 3*l.*; 2nd class, member, 4*l.*, member's wife, 2*l.*; 3rd class, member, 2*l.*, member's wife, 1*l.* The funeral money is raised in each instance by one week's extra subscription on the death of a member, and half a week's subscription on the death of a member's wife. Brawling, fighting, excess in drinking, and keeping bad company are bars to receiving the benefits of the society.

The contributions to the Machine Shop Fund are 6*d.* per week, and the sick allowance 10*s.* per week for 13 weeks, 6*s.* 6*d.* per week for other 13

Names.

RANSOME & SIMS—*cont.*

weeks, and 3*s.* 3*d.* for other 26 weeks should the disability continue so long. Members are admitted to pay half contribution, and to receive half benefits. In case of the death of a member the members pay a subscription of 1*s.* each towards his funeral expenses, and in case of the death of a member's wife half of that amount is subscribed by the members for her funeral expenses. At the end of the year the funds are divided, excepting that 1*s.* is left in the hands of the treasurer by every full member, and half that amount by every half member, to meet emergencies.

The weekly contribution to the Smith's Shop Sick Fund is 2*d.*, and the sick benefit 3*s.* per week for 12 months, if the member is disabled so long. The funeral gift at the death of a member is provided by a collection, to which members are required to contribute not less than 3*d.* each.

The members of the Turnery Relief Fund contribute 2*d.*, and half members 1*d.* per week respectively, and receive during sickness or lameness, as long as either may continue, provided they have not been caused by misconduct, a weekly allowance of 5*s.* and of 2*s.* 6*d.* as full or half members respectively. At the death of a member each full member pays 6*d.*, and each half member 3*d.* towards a funeral gift, and at the death of a member's wife half these amounts. At the death of a half member the contributions for his funeral money are the same as for a full member's wife. The funds are divided when over 12*l.*, but not when at or below that amount, which is the minimum sum kept in hand. In the event of a member leaving his employment he is entitled to the sum the society was worth per member the week before his leaving. Members joining the society pay as an entrance fee the sum the society is worth per member at the time of their entering.

The other sick funds belonging to the different departments of the works, although varying in the rates of contributions and the benefits, and in minor particulars, are based upon the same fundamental principles as those above referred to, which sufficiently indicate the general character of the whole.

For illustration of the working of these societies a copy is given in the Appendix C. of the last annual report of the Turnery Fund.

Although the Accident Fund and the various other funds connected with the works for the relief of sick and disabled workmen are helpful and beneficent within the limited range of their operation the partners in the firm have never felt satisfied that these funds were all that was necessary or desirable as agencies by which working men could make adequate provision against either sickness, the infirmities of old age, or death. The benefits of these funds, such as they are, are restricted to the persons employed at the Works. The annual division of the funds and the uniform contributions of the members, conditions necessary, it may be, under the circumstances, are conditions radically defective in principle, inasmuch as the science of vital statistics clearly demonstrates that the contributions of the members at the earlier ages, instead of being divided annually, should be put to an accumulating fund, for which the members who attain to advanced ages will certainly have need as the infirmities incidental to old age increase upon them.

Although there is in a large number of instances a remarkable degree of tenacity in the connection between employers and employed at the Orwell Works, separations, from a variety of causes must necessarily occur from time to time. It may be that in such a separation a man who has contributed to these societies for a series of years may find on leaving the works that his payments, although they have assured him in the past, assure nothing against sickness, old age, or death in the future. It is true that he has received his share annually of what was left in the fund after meeting the demands upon it, and has probably spent it, but that share he needed for the future, and he may now find not only that his membership is not transferable, but that he has passed the age within which he is eligible to join a permanent benefit society, even upon payment of a high "initiation" fee and a heavy rate of periodical contribution. Such considerations as these have influenced individual partners in the firm, while they gave every encouragement to the shop sick funds, to encourage also, by every means in their power, the formation in the locality of provident institutions based upon a wider foundation and constructed upon sounder principles, institutions which would secure larger and more permanent benefits, and which would be available to the industrial classes generally, their own workmen inclusive. It will

Names.

RANSOME & SIMS—*cont.*

be found that in accordance with this view Mr. James Ransome, acting in concert with other influential gentlemen, was amongst the first promoters of the "Mutual Assurance Benefit Society for the town and neighbourhood of Ipswich." The society was formed in 1835, Mr. James Ransome having been from the commencement one of its auditors, an office filled since his death by his son, Mr. Allen Ransome. The society was formed for the various purposes of assuring pensions, sick allowance, deferred annuities, endowments for children, sums at death, and other objects. The nucleus of its funds was formed by donations and honorary annual subscriptions, to which the firm had the privilege of contributing, until the society had become self-supporting. The first annual report of the society showed receipts amounting to 353*l.*, including 264*l.* received from honorary subscribers. The 31st annual statement, which is made up to July 30th 1866, shows that the society had at that date an accumulated capital of 4,901*l.* For particulars, *see* Appendix C.

It was in furtherance of the same design—the encouragement of provident institutions adapted to the means and wants of working men—that Mr. Allen Ransome identified himself personally as an honorary member, and as a trustee and treasurer, from its opening, with the first Odd Fellows' Lodge—The Orwell—opened in Ipswich in 1843. The one lodge then established has grown into four, and the few working men with whom Mr. Allen Ransome then associated himself have grown into above a thousand. The accumulated capital of the four lodges in Ipswich now amounts to above 12,700*l.*, of which more than half belongs to the parent lodge, the Orwell.

So healthy is the condition of the Odd Fellows' funds, that a bonus of 7*l.* 18*s.* can be added (and is actually being paid) to the 12*l.* payable on the death of members of the Orwell Lodge. The four lodges disburse annually above 1,200*l.* in sick relief, in sums at death, and for medical attendance upon the members.

The introduction of the Odd Fellows' Order paved the way for, and was followed by, the opening of the first Forester's Court in Ipswich in 1846. That order has now seven courts or societies in the town, each having its own separate funds, with an aggregate of 1,324 members, and 6,028*l.* of accumulated funds. Last year they disbursed 1,767*l.* in sick relief, and 414*l.* in funeral money.

Some misapprehension exists as to these so-called "secret" societies. The whole of their secrecy consists of a sign and a password, necessary to protect them against imposture, as certain benefits may be realized by a member, under certain circumstances, in any part of the kingdom or of the world, where the sign enables him to be known. These associations are in reality nothing more nor less than Friendly Societies on a gigantic scale, established for the sole objects of assuring allowances during sickness, and sums of money on the death of members or members' wives, for medical aid to members and their families, and for assistance to members travelling in search of employment.

To revert to the Orwell Works, and the number of workmen employed therein connected with benefit societies, the matter may be summarized thus:—

Name of Society.	Number of Members.
Members of the Foresters' Benefit Society	142
Ditto Odd Fellows'	93
Ditto Other Societies	584
Total	819

The total number of members seems large in relation to the number of employees, 915, upon the books of the firm; but this is accounted for by the circumstance that several of the workmen are members of more than one society. The "other societies" are for the greater part the various sick funds connected with the works. No account, of course, is taken in the above statement of the Accident Fund, to which every man and boy employed at the Works contributes.

In the year 1866 the aggregate sum disbursed for relief of sick members, and the other objects for which the societies connected with

Names.
— —
RANSOME & SIMS—*cont.*

the Works are instituted, amounted to 379*l.* 12*s.* 6*d.*, which is exclusive of the benefits received by workmen who are members of the Foresters', Odd Fellows', and other societies of a general character.

The Accident Fund, and the various sick relief funds connected with the Works, are never allowed to become bankrupt. In case of any of the funds being exhausted, the respective treasurers draw upon the firm, which invariably honours the draft. In some instances the firm, as treasurers of the Accident Fund, make advances to the extent of from 20*l.* to 30*l.* From this fund sums are paid at the death of workmen, apprentices, and boys; gifts are made to widows and to fatherless children, the fund being also applied to various other benevolent uses.

Question 31.

Length of Service of Workmen.

The average ages at death of the men who have died in the service of the firm cannot be stated with accuracy, but the lengthened periods of service of many of them affords presumptive evidence that an average degree of longevity at least is attained. Of 38 of the men who have died most recently, all of them since the Orwell Works were completed, and the greater number of them within the last 10 years, the average period of service has been 28 years and nearly four months. The following are the particulars as taken from the pay books of the firm:—

Number of Men.	Years' Service.	Number of Men.	Years' Service.	Number of Men.	Years' Service.
13	20	2	30	1	36
1	21	1	32	1	37
2	22	1	33	1	38
1	23	2	34	4	40
4	25	2	35	1	45
				1	50
21		8		9	

Total, 38 men: average service, 28 years and 4 months.

In connection with this subject it may be mentioned that of the total number of clerks and workmen, 915, at present upon the pay books of the firm, 167 are boys and apprentices. Of the residue, 748—663 have been in the employment of the firm for periods ranging from 5 to 53 years. The following are the particulars:—

Number of Men.	Years' Service.	Number of Men.	Years' Service.	Number of Men.	Years' Service.
38	5	30	19	5	33
33	6	41	20	2	34
27	7	34	21	1	35
22	8	19	22	7	36
13	9	7	23	1	38
37	10	10	24	2	40
34	11	19	25	4	41
41	12	22	26	2	42
43	13	10	27	2	43
37	14	12	28	1	44
22	15	7	29	1	47
14	16	15	30	1	52
17	17	3	31	1	53
23	18	3	32		
401		232		30	

Total number of men embraced in the above table 663.

Number of Men.	Range of Service.	Average Years' Service.
663	5 to 53 years.	16 years 6 months.

Names.

RANSOME & SIMS—*cont.*

Of the above 663—

Number of Men.	Range of Service.	Average Years' Service.
459	12 years and upwards	20 years 4 months.
232	20 „ „	25 „ 7 „
51	30 „ „	36 „ 1 „
14	40 „ „	43 „ 6 „

It may be mentioned that in instances of workmen spending the greater part of their active lives in the service of the firm, they receive, on becoming incapacitated for further work, retiring pensions for the remainder of their lives. These allowances are in some cases continued to their widows. Two of these pensioners died in 1865. The amount paid to those remaining in 1866 was 180*l.*

Questions 33, 34, 35.

Workman's Hall, Building Societies, &c.

When the manufactory of the firm was removed from St. Margaret's foundry in the town to the Orwell Works, situated near its extreme south west corner, it was found that the distance between the workmen's homes and the place of their daily labour had been generally and very considerably increased. It was thought desirable that some means should be provided for their taking meals at less cost of time and labour in walking within the short intervals available, viz., at that time half an hour for breakfast and an hour for dinner.

Attracted by a notice in a popular periodical of a plan which had been adopted with great success by the proprietors of the Don-side Factory, near Aberdeen, one of the partners made a visit to the place in 1848, for the special purpose of inquiring into its arrangements, management, and results. The arrangements were found to be of a very simple character, the accommodation consisting of a large room, with means furnished in connection for preparing the staple article in the dietary of the Scottish peasant—porridge made of oatmeal boiled in water, and usually eaten with milk. This frugal fare he found was supplied at a very moderate cost, and could be had by the workpeople before commencing work in the morning, or during the breakfast and dinner hours. The comfort this simple arrangement ensured to the workpeople was found to be very great, especially to the children, of whom a large number were employed. On Mr. Allen Ransome's return from his journey he immediately took proceedings to adapt this plan to the requirements of the English artizan, and to enlarge the design so as to embrace accommodation for the social comfort and enjoyment of the workmen. To this end a large building, to which the following description applies, was erected at his cost in the immediate vicinity of the Orwell Works, and was named "The Workman's Hall."

The principal internal feature in the building is a spacious and lofty hall, 64 feet square, with portions on each side divided off, but in such manner as that these portions may either be used separately, or as parts of the hall. One corner of the hall is taken off for the entrance vestibule and staircase, and the corner opposite to it, corresponding in size, is partitioned off for the "Orwell Works Library," and reading room, which is supplied with newspapers and periodicals. The arrangements of the halls are so combined as to make it readily adaptable, as occasion might require, for lectures, readings, and musical entertainments, and for these purposes it has been found most useful.

A commodious kitchen, store rooms, and other necessary accommodations, are also provided upon the ground floor.

On the upper floor a convenient apartment is provided for a committee room, wherein to conduct the business of various societies connected with the Works. The remainder of the upper floor is, for the greater part, occupied by ranges of dormitories, each 12 feet by 10 feet, and furnished with a bedstead, a convenient chest for clothes, and a chair. These sleeping apartments were intended for single young men connected with the Works, who might not have a home in the town. A large sitting room, for the use in common by these young men, was also provided, in which they might spend their evenings together. The charge

Names.

RANSOME & SIMS—*cont.*

for these rooms was 1*s.* per week, or if to include board, 9*s.* 6*d.* per week.

The staff consisted of a manager, with his wife as matron, and one servant, with occasional help. The meals prepared were coffee and bread and butter, ready before 6 a.m. Coffee, tea, bread and butter, and cold meat, at a regular tariff for breakfast; roast or boiled joints of meat, soups, plain or meat puddings, and vegetables, at a fixed tariff for dinner. The rates were such that a good meat dinner, with bread and potatoes, could be had for 6*d.* Arrangements were also made for the supply of beer, which was limited to the extent of one pint at each meal to such as required it. For such as chose to provide their own meals, the use of apparatus was given, on due notice, for heating them. These arrangements remained in force till about the year 1864, and upon the whole worked satisfactorily. By degrees the workmen found residences within easier distance of their place of labour, and there remained no need for furnishing them with dinners. The practice also gradually increased with such as still continued to reside at a distance of bringing their own dinners, so that the necessity for culinary operations and purveyance almost entirely ceased. The dormitories were generally occupied in the earlier days of its establishment; but they seemed gradually to lose favour from a variety of causes. Probably, as private lodgings could be obtained conveniently situated, they were preferred as approximating more closely in character, in freedom, and comfort to the home; the lodgers at the hall appeared, moreover, to entertain a general dislike to the restrictions as to closing, and to remaining under what they seemed to consider a species of surveillance as to their going out and coming in. Several coffee and eating houses established themselves in the near neighbourhood of the Works, and excepting for the social purposes served in connection with the library and reading room, the use of the committee rooms, the evening practice in the hall of vocal and instrumental music, and for occasional lectures and entertainments got up by a committee of the Mental Improvement Society and the workmen themselves, the original uses for which the hall was designed as a species of working men's club, to a considerable extent passed away.

Notwithstanding that the hall is not now fulfilling to as great an extent as formerly its original purposes—the circumstances and necessities of the workmen being now greatly altered—as affects its usefulness, it nevertheless continues to serve important purposes, as an adjunct to the Works, and a convenience to the workmen, and to be of general utility to the population of the locality in which it is situated. Large numbers of the workmen use the hall daily at dinner time, when they have free access, and the use of the furniture without charge. Occasional meetings of the workmen are also held in it for the discussion of matters relating to their own interests, or any questions affecting jointly the interests of themselves and the firm. The hall continues to be the home of the Mental Improvement Society and of the Orwell Works Library (concerning both of which some particulars are given in another part of this document). The hall also supplies suitable accommodation for the many lectures, readings, and entertainments, with vocal and instrumental music, which are arranged and conducted by the workmen, and are almost always highly successful. The various other societies connected with the Works continue to find in it accommodation for the transaction of their business, and the custody of their books of account and other documents.

It may also be mentioned that the hall serves, to a certain extent, the purposes of a district place of worship. At the request of a society of laymen connected with the Established Church, the use of the hall is granted rent free, with gas supplied gratis, for religious services, on one evening in the week, and on Sundays. On Sunday evenings the hall is often filled by an attentive and decorous audience, composed for the greater part of persons living in the neighbourhood, some of whom have not inclination or opportunity for attending churches, chapels, or ordinary places of worship. The hall has also on many occasions been freely granted to various dissenting bodies for similar purposes. The only conditions imposed by the firm in granting the use of the hall for religious services are, that the responsible conductor and the audience should "do "all things decently and in order," and that there should be "no col- "lections." The firm are not given to dictation in matters of religion, but would doubtless exercise their powers to interfere if anything outré were introduced in either worship or doctrine.

Names.

RANSOME & SIMS—*cont.*

Coincident as regards time with the preparations for the erection of the Workman's Hall, considerable pains were taken by members of the firm to induce the workmen to a consideration of greater forethought and providence in the application of their earnings. The sincere desire was felt to aid them, not only by counsel, but by assistance, in forming such organizations as might afford encouragements and facilities for husbanding their resources, and for making provision against sickness, casualty, or old age. Meetings were held for the discussion of the advantages of friendly societies' insurances for a fixed term or for life, and for provision for the purchase of their own dwellings on the principle of shares purchased in building societies. It was shown that by means of payments by small weekly or monthly instalments not exceeding 10*s.* per month, working men or others, would in the course of 12 or 13 years become entitled to 120*l.*, a considerable portion of which sum they might forestall for an immediate purchase of a cottage, on giving up the title deeds as mortgage security. A street containing 40 cottages immediately adjoining the works was purchased by Mr. Allen Ransome, to be available on the conditions indicated above for any investments the men might be disposed to make. The men were at the same time offered the opportunity of purchasing shares in the Workman's Hall establishment. Several of the foremen and clerks of the works were willing to invest in these shares, but on the report of the committee, after due consideration it appeared that on this system the interest of the shareholders would induce the desire of making the supply of meals to the workmen a source of profit, which would create an interest in opposition to that of such of the workmen as were customers. It was therefore determined that the experiment should be tried at the masters' risk, and the arrangements were carried out as before stated. The cost of the building and the furniture and fittings was about 2,000*l.*

Although much interest appeared to be excited by discussion of the principles of provident institutions and the power for securing substantial good which they conferred upon working men, the time for the practical application of these principles seemed scarcely to have yet come. After a few weeks the committee came to the conclusion that the expectation of the men purchasing their own cottages could not for a time be realized, and that for the present it was not desirable to attempt an organization for the purpose. The street of cottages was consequently retained as the private property of the partner who had purchased them, and they have since then been occupied at their own option by the workmen as tenants. That this movement, although not an immediate success was a step in the right direction, and in some measure preparing the way for an ultimate adoption and success of the principles enunciated when carried out on a more extended scale, has been now satisfactorily proved by the practical results developed in a more public provident association, which has been actively promoted, since 1849 by one of the partners of the firm in conjunction with other gentlemen interested in the condition of the industrial classes, some of the employeés connected with the Orwell Works, and a number of the more provident members of the working class and of the small tradesmen of the town. The following particulars refer to the effort in question:—

The Ipswich and Suffolk Freehold Land Society.

This society was established in the year 1849, and completed the 17th year of its existence in the latter part of 1866.

Amongst its first promoters and committee men we find the names of Mr. W. Dillwyn Sims, junior partner in the firm, and three of the employes at the Orwell Works, who were associated with a number of influential local men.

One of the principal objects in setting this society on foot was to enable persons of limited means, working men and others, to obtain by application of their savings, a piece of land, suitable for a house and garden ground, and of the annual value of at least 40*s.*, such acquisition to be within the reach, at a price, and under conditions of payment, suited to their circumstances. The society had an avowedly political object in view at the outset, viz., the acquisition of a qualification to vote for a county member of parliament; but it is now carried on more with a view to the possession of the land without regard to the electoral privilege.

Names.

RANSOME & SIMS—*cont.*

The society's plan of operation is as follows:—Estates are purchased, and in the first place conveyed to some individual in whom the society places confidence; roads are made over them by the society; they are divided into suitable allotments, and offered to the members, who ballot for priority in the choice of allotments. Sub-conveyances are then made at a reasonable cost (a little over 3*l.* for conveyance and mortgage deed), and those who wish to do so, and are able, may pay up the full cost at once. The others mortgage their allotment to the society, until they are able to pay off the purchase money with interest. Should a larger number of shareholders desire to participate in any estate than there are allotments to be had, the ballot is first resorted to to decide who shall afterwards take part in the ballot for choice.

The management is conducted by a president, two vice-presidents three trustees, and twelve members, six of whom retire aanually, the former officers being ex-officio members of the committee. The present president is Mr. W. Dillwyn Sims, who is also one of the three trustees.

Each share is fixed at 30*l.* On unadvanced shares members are expected to pay 2*s.* per share per fortnight, making 2*l.* 12*s.* per annum, and on advanced shares 2*s.* 6*d.* per share per fortnight, or 3*l.* 5*s.* per annum. The contributions are taken fortnightly. The entrance fee is 1*s.* per share, and a further sum of 6*d.* per quarter on each share is required to be paid.

To those shareholders who allow their money to remain in the society, a part of the profits is paid after they have subscribed for one year, the remainder being carried to a reserve fund. The profits arise both from the re-sale of the estates and from the interest paid by the holders of advanced shares. Such profit-dividend has been from 6½ to even 8 per cent.

During the seventeen years of the society's existence, up to last November, 23 estates and one in course of allotment—varying in size and locality in the county of Suffolk—have been purchased, and the sum of 34,632*l.* paid through the society for them, including the shares paid up at once. The amounts received during the same period from the members have been upwards of 49,000*l.*

The expenses of carrying on the society for the year ending November 30th, 1866, were 188*l.* 3*s.* 3*d.*, The members of the committee receive a small fee, and there is a paid secretary and officers to receive the contributions and audit the accounts.

There are two auditors, one appointed by the committee, and one by the members at the annual meeting.

This society has worked well, and is now in a flourishing condition.

It is important to observe that this association is combining the functions and advantages of the building club with the land society.

On one of their estates recently purchased, the society are erecting, by contract, 28 houses at 120*l.* each, which are taken by the members on similar terms to those of ordinary building societies.

In 1865 the gross receipts from contributions amounted to 4,727*l.* The number of shares is 1104½, being an increase over last year of 22¼. The profits for the past year amounted to 701*l.*, as against 575*l.* for the previous year. 6½ per cent. was divided among the unallotted shareholders, and the remainder added to the reserve fund, making it about 550*l.*

Whilst the number of shares and shareholders was then considerable more than at any former period, the committee pointed with satisfaction to the fact that out of nearly 700 members, 600 of them belong to the working classes—a circumstance which shows conclusively that the society's operations are keenly appreciated by provident members of the industrial body.

A copy of the last balance sheet of this society will be found in the Appendix.

Questions 32, 33, 34.

Education. Religious Teaching. Mental and Physical Recreation.

The boys and youths admitted to employment, or to trade instruction as apprentices at the works, are in every instance 13 years of age or upwards, a majority of the youths being from 14 to 16 years of age on entering.

If means for the instruction of such a class as that to which the boys belong who seek employment in foundries and engineering works (the apprentices are not here spoken of) were as generally accessible, and as

Names.

RANSOME & SIMS—*cont.*

easily taken advantage of as is desirable, there would be no necessity for employers to provide means for the elementary instruction at least, of this class; but unhappily this is not the case, and the attempt on the part of the employers to provide for their instruction in reading, writing, and arithmetic, with the elements of knowledge, is attended with almost insuperable difficulties. There is no legal obligation either, to provide the means of instruction on the one hand, or to accept it on the other. Any arrangement which will curtail the hours of labour, and the consequent earnings of the boy, is objected to by the necessitous parents, who are unable to appreciate the value of the countervailing educational advantage offered. On his part the boy resists the restraint the school imposes upon him, and will have his sport in the school, if he may not have it elsewhere. Those who have experienced the difficulties, the outraged patience, the thwarted efforts, and the painful labour apparently in vain, incidental to Sunday school, and especially to Ragged school teaching, will readily apprehend the painful and almost hopeless toil in which they engage who attempt the training and instruction of youths who having reached their 13th or 14th year, and have not acquired the merest rudiments of instruction, have never been subjected to the discipline of the day school, and are almost totally ignorant of the amenities of civilized life. In the workshops, where such undisciplined youths are under the immediate eye of the foreman and the workman, they can be kept under control, and they usually make satisfactory progress in acquiring a fair measure of practical knowledge and manual dexterity in relation to the crafts or occupations in which they are engaged. In the day or evening school however the matter is very different; thither it is impracticable for the foreman or workman to follow them, and the nature of the turbulent, mischievous young Arab breaks out to the utter discomfiture of the teacher, unless he has an iron will as well as a tender nature, and is endowed with patience and aptitude to teach in a degree almost miraculous.

The forbidding character of the material to be operated upon has not, however, deterred the firm from making various attempts in the direction of education.

In 1824 an evening school was held in one of the workshops by the present senior partner of the firm, then in his apprenticeship, his object being to assist his fellow apprentices, and the lads employed, in reading, writing, and the first rules of arithmetic. After conducting the school for some time with satisfactory results he was called away to manage a branch business at a distance. This evening school was carried on with advantage as a sort of mutual improvement class after its originator had left. The little gathering of young men was sometimes attended by a few adults, almost all of whom remained with the firm for 30 or 40 years afterwards.

In the years 1848-50 the business had been largely increased, and mainly by the manufacture, under patent, of railway chairs and compressed wood fastenings, involving the establishment of larger works on a site near the river on the outskirts of the town; to which the Carr Street establishment was afterwards transferred, when the seat of the business took the name of the Orwell Works. This branch of manufacture (the casting of railway chairs) involved the employment of a considerable number of lads from 10 to 17 years of age, for light, unskilled labour. It required but little handicraft dexterity, or skill, and was from the heat and dust somewhat unpleasant. The applicants for employment were numerous and of the lowest class—but little removed from that known as "Street Arabs." To the parents of these lads, many of them the widows of seamen and labourers, the few shillings to be earned was an important object. Under a judicious system of piecework, arranged and constantly supervised by the senior partner, Mr. James Ransome, who at the time was sole manager of this portion of the works, a fair share of the earnings of the group or gang of men and boys became available for their juvenile assistants; the boys not being left to be paid day wages by the leaders of the gang, but receiving proportionately to the work done, and by a system of good conduct tickets, which the leader of each gang was entitled to dispense, a bonus of 15 or 20 per cent. upon these wages could be earned, and was, with comparatively few exceptions, fairly claimed.

Several attempts were made from time to time to provide suitable evening instruction for these lads. A large room was engaged and the services of a schoolmaster were obtained. So long as the charm of

Names.

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novelty attracted, and the personal attendance of the masters or managers could be afforded, the school was conducted with due order. The very rough character of the very raw material (the class being of that character which has only recently been effectively reached by Ragged Schools) rendered it very difficult to secure amongst them due subordination for school purposes; although the same lads while engaged in the more stirring occupation of their work were on the whole tolerably well conducted. As the spring advanced the temptation to out-door relaxation was too great to be resisted, and after two seasons it was not thought expedient to renew the attempt to instruct in that manner.

The next endeavour to provide instruction for these lads was made by taking on a double set of workers, and arrangements were made with the master of a school in the neighbourhood to take a certain number of boys per day: one half of the lads to attend the school on Mondays, Wednesdays, and Fridays, and to labour in the works on alternate days; the other half attending school on Tuesdays, Thursdays, and Saturdays, and at the works on the intervening days. The lads had each a coloured slop as overdress for school days. This alternate system ereated considerable difficulty in the existing organization of the piece-work arrangements, and was much deprecated by many of the parents, who could ill afford the diminution of the wages earned by their sons on half time; the plan was nevertheless in operation with a fair degree of success for two or three years, until machinery in the moulding operations had superseded the necessity for so large a staff of boys.

For some years after this the school operations for this class of lads were carried on in the Workman's Hall for five evenings in the week, and on Sunday morning by an invalided overseer of the works. Although little beyond the rudiments of reading, writing, and arithmetic were attained, many lads of a class little likely to gain other instruction elsewhere continued to receive some measure of advantage.

Since that time the number of boys under 14 or 15 years of age taken on at the works has been but few, and of these the greater part have had the advantage of sound instruction in one or other of the numerous charity, parochial, national, or British schools established in the town. The members of the firm owe their gratitude for the service rendered to the community by these elementary schools, and have the highest appreciation of their humanising and elevating influence. As they feel it to be their duty, they prize it as their privilege, to contribute according to their ability, and according to their sense of the strength of their claims respectively, to good popular schools available to persons of small means, to others available to the destitute, and to any honest, earnest, humane effort directed to the enlightenment of the ignorant, the relief of the suffering, and the amelioration of the condition of the great body of the people.

The moral responsibility of the employers of a large number of workpeople to provide educational advantages and facilities to those in their employment cannot be considered satisfied by the mere legal observance of the letter of the Factory Act, as regards primary instruction, whether or not they are subject to the provisions of the Act. A far higher duty and a more grave responsibility attaches to them as they may take advantage of or neglect the important influence they possess and are morally bound to exercise in aid of the continued education of at least the younger portion of the workpeople in their employment, by stimulating them in the pursuit of knowledge and in facilitating its acquisition. They have the power to confer incalculably important services upon their workpeople and the general community by the initiation and encouragement amongst their workmen of co-operative institutions and efforts for mental and moral culture, for innocent social enjoyment and recreation, for provision against sickness and old age, and for the profitable investment of savings. The Benefit Club, the Mental Improvement Society, or the efforts which may be made in the manufactory may be as the small pebble flung into the peaceful lake, from which the widening circles spread. The shop Sick Club may lead to the introduction of the Odd Fellows', Foresters', and other friendly societies, the larger benefits dispensed by which are available throughout an unlimited range; the Mental Improvement Society may lead up to the Working Men's College; and the discussion of the principles upon which land and building societies are conducted may result, eventually, in the purchase and settlement of such a "California" as that on the outskirts of Ipswich,

Names.

RANSOME & SIMS—*cont.*

upon which a large number of the workmen employed by Messrs. Ransome and Sims are comfortably settled, through the instrumentality of the Suffolk Freehold Land Society.

*The Orwell Works Foundry Society for Mental Improvement.**

Formation of the Society.—The first meeting of the society was held at the foundry on the 20th of May 1836; Mr. Robert Ransome in the chair.

An address by the firm, then J. R. and A. Ransome, was read by the chairman.

The firm, addressing "the workmen in their employ," urged the importance of religious, moral, and intellectual culture as sources of the highest and most permanent enjoyment, and in the following passages of the address gave a key to their own motives in endeavouring to form a society for mental improvement amongst their workmen.

"To those, therefore, who possess the benefits which education affords, "it should be considered a duty to make a right use of their knowledge "as regards themselves and others with whom they may be associated. "United efforts under good arrangements will accomplish a great deal, "and there are no pleasures more permanent, none which afford a more "comforting retrospect, than the steps which are taken under a good "feeling to improve the minds of individuals by co-operating with them "and making fair mutual exchanges of knowledge for that purpose.

"It is with a sincere desire and some hope of benefiting you that "the masters of this concern have called you together this evening for "social co-operation, and to offer some suggestions for your con-"sideration."

The hints for consideration referred to the classes of books that should have preference in selection; works "on Party Politics and Religious Controversy" being pronounced undesirable. The firm recommended that the rules should be framed by a committee of the members, and that the management should be in the hands of the members themselves by a committee of their own appointment, the partners taking part simply as members of the society, but acting as president or treasurers if that was desired. The firm promised assistance in various ways, and, as regarded the rules, suggested that none of the meetings of the society should be held in a public house; that books should not be left about the manufactory, or read during business hours; that ready facilities for admission should be given to the workpeople employed at the works, and that a fair compensation should be made to such men as might leave the works after subscribing for a certain time to the society.

"It is our hope and desire that a society which has for its object the "interest, amusement, and edification of our workmen may be carried "on with mutual good will, and that it may be a means of promoting the "comfort of all who join it."

The society opened with 45 members, the list being opened by the Messrs. Ransome—James, Robert, Allen, George, and Frederick.

June 10th, 1836.—At a meeting of the committee it was announced that Messrs. Ransome had kindly allowed the committee premises for carrying on the objects of the society; and as a nucleus for a library, had sent a large parcel of valuable books.

At this meeting the report of the committee to the members contained an expression of hope that every one would "assist in promoting that "good feeling one toward another which is so desirable in a society of "this character, thus rendering our employers that inward satisfaction "they must then feel, and which they richly deserve, from having set on "foot and forwarded so liberal an object having for its aim the instruc-"tion, morality, and domestic comfort of all those in their employ."

At this meeting a draft set of rules was submitted for the approval of the members, and ultimately with certain modifications adopted.

James Ransome, the senior partner of the firm, was the first president.

* For information as to the objects and management of the Society, see copy of the rules, Appendix, F., G. In addition to the library and reading-room, as means of improvement, many popular lectures have been delivered to the members, and evening classes have also been conducted for the benefit of the men and boys employed in the works.

Names.

RANSOME & SIMS—*cont.*

From the records of the society it appears that the firm, from the first commencement, provided accommodation for the conduct of its business, the minutes of proceedings being headed "Foundry," "Engine Room," "Turnery," "Plough Chamber," &c.

The minutes contain numerous memoranda indicating the active though not dictatorial interest taken by the heads of the firm in the affairs of the society.

It would occupy too much space to give full details of the history of the Mental Improvement Society down to the present time; it may suffice to say that its library has gone on steadily increasing until now; its members also kept increasing rapidly and steadily till about the time when the Working Men's College was launched, when a number of members were drawn off, with the full encouragement of the firm, who have always preferred to support institutions for mental improvement, or for the encouragement of provident habits, from which their workmen (in common with other working men) might derive greater advantages than from associations exclusively confined to the works. The firm have always aimed at breadth of basis and the utmost extension of benefit.

The number of members as recorded in the first roll, made in 1835, had increased at 1861 to 251; since that time there has been a decrease, attributable to the cause above referred to. Looking to the library, it will be be found that there is a large, constantly progressive increase. The nucleus of the library consisted in 1836 of about 50 volumes, given or lent by partners in the firm; in 1851, the library had 1,790 volumes; in 1856, 2,587 volumes; in 1861, 2,700 volumes; and in 1866, 2,922 volumes. It is curious to notice that these working men, to whom this library belongs and by whom it is managed, have had the courage to dash gallantly, and with fair success, at a problem which knocks over dead beaten our most profound philosophers and metaphysicians, viz., classification of human knowledge as recorded in books. The library has its "classified catalogue," which is not nearly as bewildering as many classified catalogues are; but the attempt is not perfectly successful. No matter; the collection of books is valuable, and if the searcher wants "Smith's "Wealth of Nations," or "Locke's Conduct of the Understanding," he will find them, if not under "Serious Literature," where he might naturally look — there being no class under "Philosophy," or "Political Economy," then in the *omnium gatherum* basket of "Miscellaneous," which all classifiers have to provide in one form or another.

The Mental Improvement Society has all along served a very important purpose, in bringing the employers and the members of the society into personal contact socially, at intervals, at the coffee parties given from time to time by the firm. At these pleasant parties one or more of the partners is always present, and much unfeigned cordiality is felt on the part of both masters and men; but there are never on either side opinions uttered with bated breath and whispering humbleness; what the chairman or the workman has to say is said frankly and without reserve; and when differences of opinion do occur, as it may be expected they will, there is no reticence, ambiguity, or mincing of phrase, but straightforward honesty in the expression of opinion given on each side. The expressions of feeling or opinion are sometimes remarkably strong, but never intentionally rude or unkind.

The lectures and entertainments, conducted under the direction of the committee of the Mental Improvement Society continue to be a source of great enjoyment to those who are able to attend them. Gentlemen of high qualifications connected with the town and neighbourhood have readily accepted the call to deliver lectures; professional lecturers are also occasionally engaged, and workmen sometimes mount the rostrum. The musical entertainments and the readings are given entirely by the workmen, three at least of whom, says a critic, sing Bishop's fine glee, "the Chough and Crow," in a style seldom surpassed by professional vocalists.

A detailed statement of members, volumes in library, etc. relative to the Mental Improvement Society, with a copy of the rules, is given in the Appendix.

Working Men's College.

The success which had attended the Orwell Works Mental Improvement Society induced Mr. Allen Ransome, in 1843, to suggest to some of the young men of the town, who had invited his assistance in the

Names.

RANSOME & SIMS—*cont.*

formation of a committee to promote a public movement for the earlier closing of shops, the desirability of forming an association in the town for mental improvement, and for social intercourse and innocent recreation. He urged that the formation of such an association was a necessary corollary to the early closing movement, and that the provision of facilities for mental and moral culture and social enjoyment would furnish the best argument with employers and the public in favour of the movement. The suggestion was actively taken up, and in the course of a few weeks the object was attained in the establishment of the Ipswich Young Men's Association. Evening classes were formed and teachers furnished, who, for the most part, gave their services gratuitously. Arithmetic, General History, French, Algebra, Geometry, Drawing, German, Writing, Book-keeping, Grammar and Composition, General and Physical Geography, were taught in the classes; the directors of the Mechanics' Institute were solicited to allow the association to be connected with it.

The Mechanics' Institute commitee of that day were unwilling to incur the responsibilty of the payment of teachers, and objected to an alliance with the recreative portion of its plans. The Young Men's Association were therefore compelled to carry out their objects by a separate organization, which they did until the year 1852, when, at a joint meeting of the two societies, it was agreed that on the abandonment of the recreational part of the original programme, and on the promoters of the Young Men's Association guaranteeing the Mechanics' Institute in a sum of not less than 50*l.* for the first year, the Mechanics' Institute should furnish class rooms, with heating, lighting, and attendance, and that, abandoning its distinctive title, "The Young Men's Association," it should henceforth be designated as the "Educational Branch of the Ipswich Mechanics' Institute." The classes thus continued to be carried on at the Mechanics' Institute till 1860-61, the committe of that institution pronounced it inconvenient to allow sufficient accommodation for the classes, and the original promoters of the Young Men's Association," aided by many of the members who had experienced the advantage of the classes, determined upon remodelling and improving the original scheme upon a wider basis. Left free to follow out their own ideas as to management, they returned to the original design of combining with the educational department facilities for social intercourse and rational amusement. A public meeting was called; the new society was inaugurated, under the title of the "Working Men's College," and Dr. Christian, professor of languages, who had been a staunch supporter of the original association, and teacher of the classes from its earliest formation, was chosen principal; Mr. Barrett, who had been amongst the foremost to suggest and aid the re-formation, became the efficient secretary.

The college rose rapidly in the estimation of the public, and especially amongst the working classes, for whom its benefits were specially intended. In the course of its first session it numbered more than 300 members, and after four years the numbers are beyond 1,000. Its classes are well filled; its rooms for social converse, reading, playing games of chess and draughts, are every night numerously frequented. A cricket ground and gymnasium have been added to its attractions; many pleasure trips on a large scale have been undertaken to places of public interest; musical entertainments and fêtes inaugurate the commencement of its educational sessions; and gratuitous treats are given to the children of the Ragged School. Many of its members have in each year obtained certificates of merit under the Society of Arts' Public Examination. Copies of the rules and the annual reports four years of its existence will be found in the Appendix. The subscription entitling to membership is two shillings and sixpence per annum.

It may appear that some apologies are due for introducing at so great a length the history of this institution; but, as Messrs. Robert and Allen Ransome were among the earliest and most zealous supporters of the "Working Men's College," and as exemplifying the advantage of friendly association between the employers and the employed, and in the promotion of harmony and good-will between both classes of society, it is believed the details of so valuable and successful a public institution will not he considered out of place, growing as it has done out of an experience of the benefits derived from a similar institution amongst workmen, in operation upon a more limited scale, as in the "Orwell Works Mental Improvement Society."

Names.

RANSOME & SIMS—*cont.*

Question 46.

Interference of Trades Union.

In the year 1851, memorable as being the period of the calamitous conflict known as the "Strike of the Amalgamated Society," the firm was apprised officially of the organization known as the "Amalgamated Society of Engineers, Millwrights, Mechanics, &c." In the struggle between capital and labour referred to, a great branch of national industry was almost universally dislocated and paralysed. One portion of the principal engineering and machine manufacturing establishments in the country was left idle and empty by the men, and in the greater portion of the remainder the men were "locked out" by the masters. It would have been indeed surprising if a shock so violent had not been felt by a firm conducting an establishment of such magnitude as the Orwell Works; if an organization with such far-reaching ramifications as the Amalgamated Society had not numbered some members amongst the hundreds of workmen employed by the firm; so it was, the shock of the conflict was felt, although happily very slightly; the throes of the great struggle reached to the Orwell Works, but there they were only very partial in extent, and the good feeling between masters and men—the *status quo ante bellum*—was speedily restored, and has never since been disturbed in the slightest degree.

The interference of the Amalgamated Society was introduced in the form of an official circular from head quarters, served upon the firm by a deputation of the workmen who were members of the society, and instructed to take this action. The circular requested "the abolition of "piecework and of overtime, except in breakdowns or accidents, and then only on condition of receiving double wages." The firm on receiving the circular invited such of the workmen as were members of the society to a conference, at which the points raised were freely discussed in the most candid and friendly spirit on both sides. They subsequently issued addresses to the workmen, expressing, in the most conciliatory spirit, with frankness, firmness, and lucidity, their views on the questions raised by the Amalgamated Society; and were careful that copies of these addresses should reach the hands of every workman in their employment. The first conference between the firm and the workmen, members of the Amalgamated Society, was of a general character, each of the partners and all the men, members of the society being present. The men were asked in a kindly spirit to weigh the matter under discussion calmly and deliberately, and to avoid a precipitate conclusion or decision. For the convenience of the partners, and in order that the workmen might have constant access to the firm, one of the partners, Mr. Allen Ransome, was appointed its representative for conference with the workmen, who on their part appointed certain of their number to represent them. At that time the firm had many large orders and heavy contracts on hand; and notwithstanding that they were glad to receive all the competent workmen who offered themselves for employment, they were under the necessity of working extra time in order to fulfil the engagements they had undertaken.

Many conferences were held betweeen Mr. Allen Ransome and the workmen, his room being constantly open to them. Sometimes he received a single man, at others a selected deputation, and in other instances again met the whole body of the society workmen. The union men's representatives had various journeys to the head quarters of the society in London, to report and receive instructions. It is believed that if it had been left to the workmen to initiate the proceedings with which they found themselves engaged, no action whatever would have been taken; but the matter being taken up by their executive, they seemed to feel it a duty, even although it might involve a degree of self-sacrifice, to carry out the instructions of the governing junto, and to abide by the fiat of that impersonal authority, rather than to follow their own inclination, as well as the dictates of their own judgment, and determine the matter as between their employers and themselves independently of any dictation from without.

The firm, in their addresses to the workmen, and Mr. Allen Ransome as the representative of his partners, vindicated the policy and justice of payment by piecework as the best mode of securing their due reward to skill and industry, whether these qualities are exercised by members of the union or other workmen. As to overtime, it was admitted by the

Names.

RANSOME & SIMS—*cont.*

firm that systematic overtime is an evil which they had always striven to reduce to the narrowest possible limit. The workmen urged, from the union stand point, that overtime throws an unduly large measure of work and wages into the hands of a few workmen, to the deprivation of others. On the other side it was held that it was less than several other evils that must accrue to both employers and employed from its total abolition. It was simply impossible for the firm so to select their orders as to have exactly as much work as would serve to employ a certain number of men throughout the year upon full time—no more, which the men objected to, and no less, which they probably disliked as much. There must be elasticity in production somewhere, either in occasional short time when they had few orders, or occasional overtime when they were pressed; or they must introduce fresh hands as occasion might require, some of whom might possibly be superior to workmen who had been longer connected with the firm than they, and whom they might supersede when the time came to reduce the number of hands. Having regard to the interests of the workmen themselves, and apart altogether from the interests, convenience, or desires of the firm, it was submitted that rigid adherence, under all circumstances, to a certain number of hours' work per day, must necessitate the fluctuating employment and discharge of a constantly varying number of men, which, distant as they were from the localities in which the class of labour affected is in demand, must inflict the most serious discomfort and privation upon the workmen discharged. Permanent relations, even at the cost of the occasional inconvenience of overtime, were certainly the interest of both masters and men.

One of the addresses to the workmen by the firm contains the following passage:—

"Our predecessors, and the members of this firm, have been for up-
"wards of sixty years associated in agreeable relation with the workmen
"in their employ, during which period nothing has occurred to disturb
"the feeling of mutual satisfaction with which the duties of our relative
"positions have been discharged." If a workman objected to overtime, or to piecework, the firm had no desire to make it compulsory on him; "but," they added, "that he should dictate to others to the hindrance of "our business, we do object, and shall, not less for the protection and "encouragement of other workmen than for the maintenance of our "own relations as they at present stand, decidedly resist." The representative of the firm gave every assurance, by his accessibility, and by his candid consideration of the representations of the men, that he and his partners were now, as they had always been, open to give their best attention to any matters affecting the interests of their workmen.

After numerous interviews between the representative of the firm and the deputation, in which symptoms were apparent on the part of the men of their being willing to accept any small concessions (enough, perhaps, to be taken as a recognition of the right and power of the Amalgamated Society to interfere), the ultimatum of the Central Executive Committee, sitting in London, was brought to Mr. Allen Ransome, at his private residence, late one night, on the return of the men from town. The scene was memorable and affecting. On the one hand, no concession whatever could be yielded by the firm to pressure, and the introduction of the thin edge of the wedge had to be resisted, even although the resistance involved the severance of ties that had united the masters and some of the men in harmonious co-operation for many years, and involved the loss of men whose character, capability, and long and faithful service had earned for them the cordial esteem of their employers. The men, especially those who had been for a considerable time in the employment of the firm, fully reciprocated, as they deeply felt, the attachment and esteem expressed by their employers. The anticipated separation was apparently regarded with sincere sorrow, but their sense of honour and loyalty bound them, they seemed to feel, to abide by the decision of the Executive of their Union, and to sever their old ties and go forth into the world. It says none the less for the manliness of these mistaken patriots that several of them exhibited considerable emotion as they wrung the hand of the master in their final interview with him, and uttered their husky "farewell."

The last parting words of the firm, in an address to the men who had thus elected to leave them, were as follows:

"Although our separation has become necessary, we shall gladly
"retain this feeling (of esteem); and in making the arrangements for

Names.

RANSOME & SIMS—*cont.*

"your leaving we are desirous to consult your own convenience as to "notice. On this point you will duly inform us."

Thirty-three members of the Amalgamated Society thus felt themselves constrained, on the dictation of the central body or the rules, to leave the service of the firm. The parting was most unhappy in itself, and somewhat inconvenient in its consequences; but this experience has been happily all that the partners have ever had of the influence, for good or evil, of the Amalgamated Society. At the time these men left there were above 1,000 workpeople employed at the Orwell Works, so that it will be seen the seceders were but a small fraction of the whole.

The Amalgamated Society, there was reason to believe, successfully thwarted the attempts of the firm, in at least one instance, to engage men who were willing to accept employment from them; but by sending an agent into different parts of the kingdom a sufficient number of competent men was obtained in about a fortnight to fill up the vacancies which had been caused in the works. Some of these workmen, brought from distant parts of the country, have continued in the service of the firm to this day, useful and contented, and honoured by their employers.

There is reason to believe that considerable diversity of opinion was manifested in the discussions of the council of the Amalgamated Society as to the propriety of disturbing the relations existing between the employers and the workmen at the Orwell Works. However this may be it did not appear that any penalty attached to the members of the union employed at the works who did not leave. The firm has reason to believe that the remaining members were not detached from the society nor censured for the course they adopted.

In connexion with this episode, it may be stated that the firm has never questioned the right of individuals to associate themselves with any society or union, so long as they do not interfere with the individual freedom of other workmen, or with the rules of the works. No questions are put to fresh hands on these points on their engagement.

The answer has been given at length to this question from its indisputable importance. The struggle was watched with the keenest interest by all the workmen employed at the works, and was doubtless an important crisis in the history of the firm. Had it ended otherwise it would inevitably have permanently weakened, or have altogether destroyed, that spirit of harmony and mutual regard between employers and employed which has ever existed in the establishment, and upon which this difference as it was settled only cast a passing cloud.

Chronicles of the Foundry at Ipswich, from 1785 *to* 1866.

The founder of this establishment, Robert Ransome, was the son of a schoolmaster at Wells, in the county of Norfolk, and was born in 1753. At an early period of his life he was apprenticed to an ironmonger, and in his leisure hours acquired some knowledge in the natural sciences, the study of which continued to be a source of much interest and enjoyment throughout his life. He attained considerable skill as an engraver and lapidary, being self-taught in these arts. His commencement in business on his own account was in a small ironmongery shop which he opened in Norwich; to which he added the business of casting small articles in brass by crucible. His skill and industry in this small business had excited the interest of one of the Gurneys, the leading firm in the banking interests in the county, and the influential promoters of every enterprise calculated to advance the commercial prosperity of its chief city. By Messrs. Gurney he was induced, and by their assistance enabled, to start a foundry for casting in iron. With the exception of a small concern of similar character in Cambridge, Robert Ransome's was the only iron foundry in the eastern counties at that time. The site of this establishment was in the hamlet of Thorp, and is known as the "Old Foundry" at this day.

Feeling in some degree restricted by his connexion with others in the business at Norwich, he determined upon opening a foundry on his own account at Ipswich, and with a capital of 200*l.*, 100*l.* of which was pressed upon him as a loan by a friend, and accompanied by one workman who had been the companion of his labours and experiments, and who remained his attendant and devoted assistant throughout the long remainder of his life, he came to Ipswich, and in 1789 started business in an old malting (which he afterwards was enabled to purchase), the

Names.

RANSOME & SIMS—*cont.*

establishment which in after years obtained a world-wide reputation, and at the present time exports its various productions to every quarter of the globe.

His attention was very early turned to the adaptation of cast iron to the manufacture of the plough, and in 1785 he took out his first patent for tempering this material for the ploughshare, in the hope of superseding the more expensive wrought-iron share at that time exclusively used. This invention met with but limited success; but it indicated the direction in which to seek a more perfect result, and after experiments prosecuted with more or less success for twenty years he, in 1806, took out his patent for chilling the under edge of cast-iron ploughshares, leaving the upper portion of the metal comparatively soft, so that this, in its friction with the earth, should wear away from the harder skin formed by the chilling process on the surface underneath, and thus, on the same principle as maintains the sharp edge in the teeth of the squirrel and other rodentia, should always, in all the stages of its use, preserve a sharp cutting edge.

In this happy, though simple idea, was found the solution of the problem; and at this day ploughshares made on this principle have almost entirely superseded the more expensive wrought-iron ploughshares, not only in England, but on the continent of Europe, throughout North America, and in all the agricultural colonies of the world where ploughs are used.

This was the first stepping-stone to success in the Ipswich firm. This patent was followed by others for improvements in the plough, till it formed the basis of the standard now generally adopted in the perfect English plough, which has obtained the award of the highest prizes at the National Exhibitions of England, France, Russia, Germany, Spain, and Turkey, and which obtained its first public appreciation of merit at the meeting of the Bath and West of England Agricultural Society for the encouragement of agriculture, arts, manufactures, and commerce, in 1807.

The founder of the firm, having, by his own high qualities and active persevering industry, fairly established the business; and after having been aided for many years by his able and eminent sons, both men of remarkable application and ability, by whom it was rapidly and largely increased, retired upon an ample competency provided by his accumulated savings, supplemented by a life annuity paid by his sons. He spent many of the last years of his life free from the cares of business, and died, aged 77, in 1829, full of years and honours.

James Ransome, the second partner in the firm, was born in 1782, shortly before his father had established the Ipswich business. He served his apprenticeship in the foundry, and shortly after coming of age joined a former pupil of his father's in the establishment of a small foundry in Yarmouth. He was admirably skilled in the manipulative part of the art, and worked with his own hands, side by side with his men during the day, arranging his accounts and attending to the clerical keeping of his books in after hours. Some of these accounts for the year 1805-6 are still preserved, where the costs and expenses of the establishment are shown on the debit side, and the amount realized by the returns on the credit side. In these is shown his own time as working in the foundry as moulder, and at the furnace his wages are charged at 4*s.* 6*d.* per day. For many years after the old men in the establishment, who were his companions and shopmates at this period, would relate to his sons and his grandsons his wonderful feats of skill and powers of labour when at work, and his prowess in horsemanship and dexterity at cricket when he would join them at their sports on the Denes at Yarmouth. In 1809 when the business carried on by his father at Ipswich had begun to increase, he made arrangements with his partner for the disposal of the Yarmouth business, and accompanied by two or three of his best workmen joined the Ipswich concern, and materially assisted its ultimate development. It is interesting to know that these workmen, as well as those that had accompanied his father from Norwich, remained with the firm so long as they lived, and that one only survived him at his decease in 1849, when he was followed to the grave by a long procession of sorrowing friends, amongst whom were more than one thousand of his workmen and assistants.

In Maunder's Biographical Treasury of the Lives of Eminent Men occurs the following testimony: After alluding to his unusual business

Names.

RANSOME & SIMS—*cont.*

qualifications, it states, "But his chief title to respect consisted in his "almost incredible efforts to promote the comfort of his workmen and "dependants, some account of which will be found in one of the "admirable books published under the title of Small Books on Great "Subjects."

Robert Ransome, Jun., the second son of the founder of this business was born in 1796, and after serving his apprenticeship to his father and brother, became their partner in 1819.

Before Mr. Robert Ransome's apprenticeship had expired, and when he was only a youth, he had entered upon the duties in which he afterwards so highly distinguished himself, of representing the firm out of doors. For several years his time was almost uniformly divided weekly into three parts—two days to work in the foundry, two to travelling for orders and to collect accounts, and the remaining two to bookkeeping. Latterly his valuable services were mainly devoted to indoor superintendence of the business of the firm, in the correspondence and commercial departments.

On the beneficial influence exercised by Robert Ransome in the management of the Orwell Works, the following extract from the Minutes of the Transactions of the Institution of Civil Engineers gives valuable testimony:—"Much of the success of the firm was due to his "elasticity of spirit, which always rose with difficulty or trial; to his "sterling conscientious integrity, and to his broad, liberal, and practical "views. The value of these qualifications was nowhere more clearly "manifested than in the internal economy of the works, in which, in "1849, after the decease of his elder brother, Mr. Ransome became the "senior partner. The workmen, &c., then nnmbering more than a "thousand, were gradually united by the force of his example influencing "them through their respective offices in a spirit of friendly co-opera-"tion for one common object, the success of the firm, the disputes and "differences of opinion which must arise at times in so large a body "of men were healed and harmonized, all willingly relying on the con-"scientiousness of their chief, and submitting cheerfully to his decision, "for though strict indeed in his notions of right and wrong, they well "knew him to be tender and gentle towards the failings of others, and "ready to spare no personal labour for the comfort and happiness of all "around him. Thus passed on many successful years, until Mr. Ran-"some, having virtually retired from the active conduct of the business, "found himself at liberty to devote more time to the promotion of those "public philanthropic movements in which he had always so much "delighted. His decease caused profound sorrow in Ipswich, and when "his remains were borne to the grave, followed by the workmen of the "Orwell Works and by a large concourse of the inhabitants, there were "few among the assembly who did not feel that they had lost a valued "personal friend."

For some years after James and Robert Ransome joined their father, the business continued to increase rapidly, and its manufactures had extended very generally to the improvement of most of the agricultural machines in use, till this branch of hitherto neglected manufacture attracted commercial attention, and stocks for supply and repair were kept by ironmongers in most of the chief towns of the kingdom.

At this time an engagement was made with William Cubitt, afterwards Sir William Cubitt, President of the Institution of Civil Engineers, to join the Ipswich establishment. While James Ransome, as a small ironfounder at Yarmouth, had in the course of his business occasionally to make castings for W. Cubitt, then a millwright in a small way of business near Cromer, these two men, who were afterwards destined to obtain eminence, became interested in each other, and formed an attachment which continued unabated through a period of nearly half-a-century. Their business engagements lasted for about eight years, till Mr. Cubitt had attained promotion in the higher walk of Civil Engineering. It was often, in the communion of after years, a subject of amusing reminiscence that the only articles of agreement ever made between them was a few memoranda on a half sheet of paper, and that, so perfect had been the understanding during the time, neither had occasion to refer to it; on the part of Mr. Cubitt its very existence had been forgotten.

Until the firm were joined by Mr. Cubitt, its manufactures had been mainly confined to ploughs and agricultural implements, but under his direction engineering and millwork became a branch, were introduced

Names.

RANSOME & SIMS—*cont.*

and cultivated, and contracts for this class of work, and for building bridges, and other local public works upon a limited scale, were undertaken. Amongst other engagements, the firm undertook to supply some of the streets in the town of Ipswich with gas, in 1817, and they established works on their own premises for this purpose. In 1852 a company was formed for the more general supply of the town, and the gas works, for which William Cubitt was engineer, were removed to a site nearer the river. At this time the system of lighting by gas was a novelty in country towns. Ipswich stands early on the list of English towns that adopted that mode of artificial illumination.

It was during Sir W. Cubitt's residence in Ipswich that his patent for the self-regulating vanes for windmill sails were taken out, and which have since been universally adopted. Sir William was at that time, like his partner James Ransome, a perfect artist in the handicraft and practical part of his profession. It was with his assistance that the perfect system of sequential arrangement and record of the many thousand varieties of patterns required in the business was organised and perfected, so that after the lapse of many years, and as relating to articles distributed over all quarters of the globe, any portion of the implements or work requiring substitution or repair could be supplied with unfailing accuracy. Some idea may be formed of the magnitude and complicated variety to which this system was extended, when it is stated that, in the one article of ploughs upwards of 100 varieties were in use, each involving several separate parts, and of these several separate parts again, many intricate varieties were in constant demand, each requiring to be not only a perfect fit in itself, but also perfect in its adaptation to all the other parts of the same implement. Many of these patterns were made by his own hands, and to the accuracy obtained by this system, and the facility thus afforded for repairs and renewals at the distance of thousands of miles, a very large measure of the success in the wide distribution of the manufactures of the firm may be mainly attributed.

In the year 1829, Robert Ransome, sen., having for several years been relieved from any active part in the management of the business, retired from the firm, so long carried on under the style of Ransome & Sons; and his grandson, J. Allen Ransome, the eldest of the third generation, who had entered the business as an apprentice in 1820, was then admitted as a partner in the new firm of James, Robert, and Allen Ransome, and is now in 1866 the sole survivor of the original partners.

In the year 1836, J., R., & A. Ransome associated themselves with Charles May, who subsequently became their partner, and the firm became largely extended in the direction of railway work, and its reputation widely spread. In 1841, James Ransome and Charles May took out patents conjointly for improvements in railway chairs and fastenings, the former being the invention of James Ransome, by which perfect accuracy as to tilt and gauge was uniformly secured, the latter by Charles May, for the construction of the keys and trenails of wood, densely compressed, and which from their tendency to expand when subjected to the action of damp, effectually secured their permanent tightness. These inventions attained very general use, and since the date of the patent, upwards of 12,000 miles of railway line were constructed on this principle in England, India, and Australia, and several parts of the continent. It was during the time of C. May's partnership and subsequently, that under the direction of the Astronomer Royal, the heavy iron and engineer's work of three of the principal astronomical instruments in the Royal Observatory at Greenwich were constructed.

Mr. W. D. Sims, the nephew of Mr. May, who had entered the business as an apprentice in 1843, became a partner in 1848, and in the year 1851, Mr. Charles May having left the firm to practice as a civil engineer, in London, the style and title of the firm was changed to that of Ransomes & Sims, which it still retains.

In 1857, Robert Charles Ransome, now Mayor of Ipswich, the son of the second Robert Ransome, after having completed a full seven years' apprenticeship to the firm, and otherwise served them for four years longer, became one of the partners. In 1864 they were joined by John Head, also a former pupil and apprentice in the old establishment. These three latter gentlemen, with J. Allen Ransome, are now representatives of the old-established firm.

The firm have in their employment at the present time 24 managers and foremen, who have been connected with the works for periods of

Names.

RANSOME & SIMS—*cont.*

25 years and upwards, all of whom have risen from the ranks. The members of the present firm are deeply impressed with a sense of their obligations to these principal managers, who have each been for so many years connected with the establishment. The energy and ability which these gentlemen have constantly exercised and displayed in promoting the interests of their principals, has only been equalled by their cordiality and zeal in promoting the comfort and the interests of the workmen. To them, since they became connected with the establishment, the success of the firm, the harmony in action, and sympathy in feeling, which happily subsists between masters and men in the Orwell Works, is largely due. It may be mentioned that one of these gentlemen, Mr. G. A. Biddell, grandson of the founder of the firm, received a superintendent's medal, and a diploma of merit for his services as superintendent of machinery at the Great Exhibition of 1851, and he had also the honour of having a medal awarded to him at the French Exhibition of 1855–56. Two others of the confidential assistants referred to, Mr. A. T. Cole and Mr. William Worby, were awarded medals at the same Exhibition for efficient and faithful service to their employers.

The Question of Wages, Administration, and Organization in the Works.

At the Orwell Works, as in other manufacturing establishments, the rate of wages is a consideration of the first importance to the employers, vitally affecting as it does the cost of production, and their capability to offer their produce in competition with all comers in the markets of the world. There, as elsewhere, the rate of wages is affected by supply and demand, and occasions arise when, in consequence of the general depression in trade, or the abated demands for the particular articles they supply, or other causes they can only keep their hands together on full time at a loss to themselves, and the discharge of a portion of their workmen, a resort to short time, or a reduction in their wages, are the only means by which positive loss can be averted. The discharge of workmen of good character and fair ability is never adopted by the Firm but with pain and extreme reluctance. An illustration of a resort to short time, evincing the most admirable spirit on the part of the workmen, is given by the author of No. xvi. of "Small Works on Great Subjects":—

"On one occasion it happened, that, owing to a long continued dull-
"ness of trade it became necessary to lessen the supply. Two courses
"presented themselves, either to discharge some two or three hundred
"of the workmen, or to put all upon short time. The proprietors felt
"a difficulty as to which of these courses they should follow. They
"called together a number of their best hands. They stated to them
"the facts as they really were, and asked them their opinion as to which
"was the better step to take. The workmen took time to consider, and
"the next morning, expressed their unanimous wish that all the work-
"men should be put upon three-quarter's time (and, of course, three-
"quarter's wages) so long as the pressure might last. There was no
"complaint made; no suspicion engendered for a moment in their
"minds that they were unjustly treated: they saw that it was a matter
"of necessity, and they submitted to the privation. They were gratified
"by being called into council to deliberate upon what was best to be
"done for the interest of the concern; and in the conduct they dis-
"played towards their brother workmen—those who would have been
"discharged, had a different decision been come to—they showed that
"the kindness which they themselves had received had borne good fruit
"in their own hearts, and induced them to submit to some privation on
"their part, rather than that others should be exposed to greater
"suffering."

At least one illustration equally creditable to the men, and demonstrating very convincingly their confidence in their employers, and their satisfaction with the treatment they had uniformly received from them is furnished by a later case of a general reduction of wages throughout the establishment. The depression of trade, arising from a financial crisis, was deep and long continued, and a sufficient degree of ease and confidence could not be hoped for by a resort to short time. The workmen were communicated with through the usual channel. Few of them knew much about the "state of the money market," or the action upon commercial affairs of the "bank rate of discount." They cared but

Names.

RANSOME & SIMS—*cont.*

little as to what the rate "per cent." in the reduction of their wages might be, but they had a keen appreciation of the value of a shilling. They felt perfectly satisfied, however, that their employers were under the necessity of making the reduction, and accepted it without remonstrance.

It was on this occasion some of the principal employés of the firm voluntarily offered to accept reduced salaries. The firm were able to appreciate the spirit in which the offer was made, and believed that they would do honour to that spirit by accepting the offer. Happily the hard times soon passed away, and on the return of better days the firm resumed the payment of the former salary without the restoration having been asked for.

If may be mentioned, in explanation of the reference made above to the communication of the firm with the workmen that the channel of intercourse in all ordinary cases is as follows:—If the firm desire to communicate upon any subject with the men, their wishes are stated to the three principal managers of the works, who have each a number of foremen under them; these convey the message to the workmen in the particular shop or department under their charge. Communications from the men individually or collectively to the firm are made through the same channel. If need require, the men and masters meet direct without any intervening medium. This representative system is found to work satisfactorily, and to furnish the means of rapid communication without excitement, disturbance, or loss of time.

The organized means of intercourse by which the firm and the managers can, through the foremen, communicate immediately with each other is found extremely useful for other purposes than those relating to the business proper of the works, or to the relations, strictly speaking, between the employers and the employed. It will be found, for instance, that during the period of the Lancashire distress in 1862, the firm having contributed their own subscription, left their employés to take their own course, and subscribe or not at their own option. The clerks and workmen took action promptly, and through their means of organization, sanctioned and assisted by the firm, engaged to send 10*l.* 10*s.* per month in aid of the distress fund, and duly contributed 63*l.* to that fund. The employés have also from time to time collected 106*l.* in aid of the funds of the East Suffolk Hospital, part of the amount having been the proceeds of entertainments given by the Entertainment Committee of the Mental Improvement Society.

In June 1860, the clerks and workmen contributed 21*l.* to the National Life Boat Association. This contribution was followed by most important results. It was the first collective offering from any manufactory in the kingdom, but the directors took advantage of the example, and sent out 5,000 copies of a letter of appeal to the workmen of other localities, stating what had been done at the Orwell Works, and the example of these pioneers amongst their class on behalf of this noble institution was followed by the workpeople of many large manufactories in various parts of the United Kingdom.

The collection amongst the workmen led to a general subscription in Ipswich and the county, to which the workmen again contributed, and which resulted in an aggregate sum of 500*l.*, out of which a life-boat was provided—the *Ipswich*—for service on the Suffolk coast. The boat has already been instrumental in saving 31 lives. Since then other towns and counties have raised funds for distinct life-boats to be called by their names, and it is not too much to say that this has been, at least in part, a result of the noble example set by Ransomes & Sims' workmen.

In connection with this subject, it may be mentioned that the attention and sympathy of the workmen was directed to the subject by the lively interest manifested in it by Mr. Robert Ransome, then the senior partner of the firm, and by the circumstance that the best engineering resources of the establishment were employed in devising and constructing the most efficient carriage possible for launching the life-boats. A number of these carriages were built at the works, and excited in the various stages of their improvement and construction more lively and general interest among masters and men that any other production ever before or since turned out from the works.

Sustained and Progressive Prosperity.

The information contained in the replies by the firm to the questions set forth in the Schedule issued by order of the Imperial Commission

Names.

RANSOME & SIMS—*cont.*

are probably sufficient to satisfy their requirements, indicated by the 3rd and 4th principles, as published in the "Moniteur Universel" of the 13th December, 1866, in so far as relates to the progressive prosperity of the firm. It may be enough to state, in brief, that at the commencement of the business the working staff consisted of a master and one or two operatives, as stated in the narrative; that they occupied premises only sufficiently large to accommodate this small force; that they used in a week a few cwts. of metal, and a proportionately small quantity of other materials. The two men have become a thousand (occasionally more), who require, as is shown, a number of acres of surface for the workshops and yards necessary for their accommodation; the iron cast and forged has been increased from hundred weights to hundreds of tons with other materials required in proportion. The capabilities of the works have been proved equal to the satisfactory execution of very large contracts, one of which was for as many earth wagons and railway trucks as would make up a continuous train five miles in length. These wagons have been turned out at the rate of one every hour, and simultaneously, fifty tons of railway chairs have been cast daily in the foundry. In other branches of manufacture the resources of the establishment have been proved to be equal to sending out 5,000 ploughs and 200 portable steam engines in a year; and in addition, in yet another department, as many compressed keys and trenails as would suffice to fasten about 1,500 miles of railway, with machines, implements, and articles of other denominations almost beyond the power of detail as regards their numbers, weights, and quantities. With regard to the manufacture of patent compressed railway keys and trenails, it may be stated that the firm has supplied upwards of 115,000,000 of these patent fastenings, which would serve for the construction of 11,000 miles of railway, and which are represented by a money value of 700,000*l.*

The first public recognition of the superiority of the special manufactures of the firm dates as far back as 1807, when Robert Ransome, its founder, was honoured with a diploma of merit for his improved plough, by the Bath and West of England Agricultural Society. As evidence of the continued success of the firm—as competitors for the highest prizes offered by the most important organizations and official bodies in the world—the following summary of their honors is respectfully submitted. The firm venture to believe the Commission will not require further demonstration or detail under this head.

The firm has received from the Royal Agricultural Societies of England and Ireland; the Bath and West of England Society; the Paris Exhibitions of 1855 and 1856; from Foreign and Colonial International Exhibitions and Agricultural Societies:—

NEARLY 1,000*l.* IN MONEY PRIZES.

24	GOLD MEDALS.	7	THIRD PRIZES.
104	FIRST PRIZES.	26	HIGH COMMENDATIONS.
53	SILVER MEDALS.	18	COMMENDATIONS.
18	SECOND PRIZES.	15	CERTIFICATES OF MERIT.
24	BRONZE MEDALS.		

Also the following Decorations:—

THE ORDER OF THE MEDJEDIEH, FROM THE SULTAN OF TURKEY.
THE INSIGNIA OF COMMANDER OF THE ORDER OF CHRIST, FROM THE KING OF PORTUGAL, AND
84 ALL ENGLAND CHAMPION PLOUGH PRIZES SINCE SEPTEMBER 1864, INCLUDING
2 BRONZE MEDALS AT THE INTERNATIONAL EXHIBITION OF 1851.
2 PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION OF 1862.

The Foreign and Colonial Prizes include the following:—

PARIS	1855	1 Gold Medal of Honour.
PARIS	1856	The only Great Gold Medal of Honour given to any English Firm, 5 First Class Gold Medals, 5 Silver Medals, 2 Bronze Medals, and 1,975 francs in money.
ROUEN	1856	1 Gold Medal.
VIENNA	1857	1 First Class Gold Medal of Honour.

Names.			
Ransome & Sims—*cont.*	Amsterdam - - -	1857	1 First Class Gold Medal, 1 Silver Medal, 1 Bronze Medal, and 2 Honorary Certificates.
	Municipality, Warsaw -	1857	Certificate of Excellence.
	Pesth - - - -	1857	Highest Diploma of Merit.
	Brussels - - -	1858	1 Gold Medal of Honour and 4 Prizes.
	Rotterdam - - -	1858	1 First Class Gold Medal, 4 Silver Medals, 3 Bronze Medals, and 4 Honorary Certificates.
	Zaandam - - -	1859	1 Gold Medal and 6 Prizes.
	Amsterdam - - -	1860	2 Prizes.
	Haarlem - - -	1861	2 Prizes.
	St. Petersburg - -	1861	1 Great Gold Medal of Honour, 1 First Class Gold Medal, 2 Silver Medals, 2 Bronze Medals, and 6 Honorary Certificates.
	Schwerin - - -	1861	1 Grand Gold Medal, 5 Silver Medals, and 4 Bronze Medals.
	Rostock - - -	1862	Great Prize of 200 thalers.
	Triebsees - - -	1862	1 Silver Medal.
	Bourges - - -	1862	The Gold Medal.
	Longford, Tasmania -	1862	First Prize.
	Ballarat, Smeeton Show -	1862	First Prize, Gold Medal.
	Greifswald - -	1863	Gold Metal, First Class.
	Lille - - - -	1863	Gold Medal, First Prize.
	Hamburg - - -	1863	Gold Medal and Certificate of Merit.
	Alipore, India - -	1864	First Prize, 100 rupees.
	Stettin - - -	1865	Silver Medal.
	Dresden - - -	1865	Bronze Medal, no higher given.
	Cologne - - -	1865	Gold Medal, no higher given.
	Port Philip Agricultural Society.	1865	First Prize.
	Dunedin Agricultural Society.	1866	The Prize.

2. Rules and Regulations, Orwell Works.—A.
3. Plan of Orwell Works, with report of fete.—A (2).
3*a*. Rules of Relief Society, Orwell Works.—C (1).
3*b*. Rules of Accident Fund, Orwell Works.—C (2).
3*c*. Rules of Friendly Society, Orwell Works.—C (3).
3*d*. Rules of Machine Shop Fund, Orwell Works.—C (4).
3*e*. Rules of Smiths' Shop, Orwell Works.—C (5).
3*f*. Rules of Turnery, Orwell Works.—C (6).
3*g*. Report of Turnery and Balance Sheet.—C (7).
3*h*. Balance Sheet, Mutual Assurance Benefit Society, Ipswich, 1866—C (8).
4. Ipswich and Suffolk Freehold Land Society, 1866.—D.
5. Address of Messrs. Ransomes and May to the workmen, concerning the interference of the Amalgamated Society.—E (1), (2), (3).
6. Abstract Mental Improvement Society.—F.
7. Rules Mental Improvement Society.—G.
8. Programme of Entertainments. Working Mens' Hall.—H.
9 (1). Working Mens' College Laws.—I (1).
9 (2). „ „ Syllabus, 1867-67.—I (2).
9 (3). „ „ Reports, 1862-66.—I (3) to I (7).

Saltaire.

1. Correspondence.

Dear Sir,

What has been attempted at Saltaire arose from my own private feeling and judgment, without the most remote idea that it would become a subject of public interest and inquiry. A sense of duty and responsibility has alone actuated me, and I would have avoided publicity but for the representations made in the following correspondence.

To Henry Cole, Esq., C.B.

Sir, December 31, 1866.

The Imperial Commission for the Paris Exhibition have established a new order of reward for establishments promoting the welfare of the persons engaged in them, and it has been suggested by the National Association for the Promotion of Social Science that your establishment could afford in a high degree the information which the Imperial Commission desire to elicit.

Names.

SALTAIRE—*cont.*

I have the honour to send you the documents relating to this new order, and to express a hope that you may see fit to fill up the questions and return them to me; and I desire to remark that under any circumstances the collection of this information and its publication seem calculated to be of general public benefit.

I have the honour to be,
Sir,
Your obedient servant,
HENRY COLE,
Secretary and Executive Commissioner.

To Titus Salt, Esq.,
Saltaire.

DEAR SIR, Saltaire, Bradford, January 22, 1867.

IT would afford me much pleasure to place in the hands of the Imperial Commissioners the results which have attended the establishment at Saltaire. I cannot, however, do so as a competitor for any prize, or be subject to the arbitrament of a jury.

The memoranda and the necessary illustration can be readily furnished, if, on these terms, you think the information I could supply would be of service to the Imperial Commission or benefit the general public.

I have the honour to be,
Dear Sir,
Yours very truly,
TITUS SALT.

To Henry Cole, Esq., C.B.

DEAR SIR, January 23, 1867.

I CANNOT doubt that the information about Saltaire would be useful to the public, and I hope you will send it, coupled with the conditions you mention about not being a competitor.

Yours faithfully,
HENRY COLE.

To Titus Salt, Esq.

DEAR SIR, Saltaire, January 25, 1867.

IF the answers given to the questions of the Imperial Commissioners, if any of the facts which experiment or experience have elicited, prove of benefit to the public, and should lead others to adopt and enable them to surpass the result of my effort, I shall be thankful.

For myself I can enter upon no competitive rivalry for well-doing, and the particulars and illustrations furnished of the establishment at Saltaire are placed at the service of His Imperial Majesty's Commissioners on the distinct understanding that they are not given in competition for any prize, nor subject to the arbitrament of a jury.

I have the honour to be,
Dear Sir,
Very truly yours,
TITUS SALT.

To Henry Cole, Esq., C.B.

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2. APPENDIX.

The mills, warehouses, and sheds at Saltaire occupy an area of 6½ acres, exclusive of the new mill, the dyeworks, and the gasworks between the Leeds and Liverpool Canal and the River Aire, which cover 3¼ acres, a total of 9¾ acres.

The exteriors of the several buildings are constructed in the Italian style, and in the stone of the district. The mills are lined and arched throughout with pressed brickwork.

The mill is 550 feet in length and 50 feet in width.

The ground storey being 16 feet from floor to floor, and the upper storeys 14 feet from floor to floor.

The windows, which are large, are glazed with sheets of cast plate glass, the upper part being hung on pivots, and opening so as to admit air and exclude rain. Ventilation is provided for by flues in the walls

Names.

SALTAIRE—*cont.*

and arches, for the admission of fresh air, and other flues for the escape of vitiated air. In winter the rooms are warmed by steam pipes.

The great shed, covering an area of nearly two acres, is furnished with tubular steam boilers, through which air is driven by fans into a series of air chambers beneath the floor and through gratings into the shed itself. By these means this large area is supplied with warm air in winter, and by shutting off the steam from the tubular boilers with cool air in the summer. Long lines of ventilators in the roofs are worked and regulated simultaneously by a simple arrangement of a wheel, a rod, and levers.

Pipes three inches in diameter are connected with each stack of privies and laid into the chimney flue; by this simple expedient all annoying effluvium is removed. Thus the sanitary condition and the comfort of the workpeople have been sought to be secured by the admission of abundant light, large cubical content of each room and shed, and by constant and very simple means for warming and ventilation.

The cottages are built of stone lined with brickwork; they contain a parlour or living room, a kitchen or scullery, a pantry and cellar, and three bedrooms. Of the latter, one is appropriated to the husband and wife, one to the sons, and the third to the daughters. Some of the houses are designed for larger families, and others for boarding houses.

Each house has a separate yard, a privy, coal place, and ashpit.

The baths and washhouses contain two plunge baths, 24 warm baths, and Turkish and douche baths, 48 wash, rinsing, and steam tubs, 48 drying closets, hydro-extractors, mangles, and all other requisites. The charges made are little more than nominal.

A literary and philosophical institution, with a museum, lecture hall, and class rooms, is designed, and will be erected during the present year.

The almshouses, 45 in number, are shown upon the plan.

A park on the bank of the River Aire, with cricket ground, croquêt grounds, and bowling greens, is laid out on the plan, and will be completed in readiness for the ensuing summer season.

LOCKWOOD & MAWSON,
Architects.

10, Lincoln's Inn Fields, London,
The Exchange, Bradford.

Supplementary Medical Report.

The undertaking and carrying out of so great and bold a design as that of building an industrial town wherein every need of the workpeople should be met, such as, for instance, religious training, education, health regulations, and social happiness and comfort (and that at a time when such matters were but little understood), was like a great philosophical experiment, one from which they who faithfully watch the working of the project may learn a double lesson. We are taught by success, but we are also taught by the non-attainment of all that has been sought, and it is from the latter teaching that we learn the most important lessons as to future progress and improvement.

We will briefly glance at these double set of facts.

1st. The success.—High-class work and good wages have brought together a large number of first-class workpeople and mechanics, whilst the comfortable houses and homes provided for them have awakened in the minds of the people that home feeling which has led them to tastefully and neatly decorate their dwellings, a very sure sign of social happiness. Every medical man and visitor amongst the poor very well knows how such things combine to prevent vice and disease, and how much they renovate and cheer the sick, give a higher tone, and tend to develope the mental stature of the people themselves. This is a most important point. A man in a dirty house is like a beggar in miserable clothing, he soon ceases to have self-respect, and when that is gone there is but little hope.

In almost every house in Saltaire some form of musical instrument is found, and indeed the choral and glee societies, together with the bands, have become household names. A large number of the skilled workmen devote their leisure hours to various scientific amusements, such as natural history, taxidermy, the making of philosophical instruments, such as air pumps, models of working machinery, and steam engines, and

PLAN OF

SALTAIRE

The Property of

TITUS SALT, ESQ.

SCALE OF FEET.

Engraved by Cook, 346 Strand, London.

Names.

SALTAIRE—*cont.*

articles of domestic comfort, while some have even manufactured organs and other musical instruments.

There is no public house in Saltaire.

This with comfortable homes and every inducement to stay at home, with literary and social institutions in their very midst, with high class tastes, and to crown all, with a beautiful temple for the worship of their God, it would be strange indeed if Saltaire had not a reputation and a name.

The erection of baths and wash-houses has been a great advance. Cleanliness is the great condition of health, whilst the removal of whole masses of damp clothes from the streets, and of the steam of the washing tubs from the houses greatly conduces to the health and comfort of the inhabitants. Indoor washing is most pernicious, and a fruitful source of disease, especially to the young.

The diseases peculiar to poverty are almost unknown in Saltaire, namely, typhus fever, rheumatic fever, and cutaneous affections.

An accident infirmary and dispensary is now designed and about to be erected, so that patients will be spared that great source of danger to life—hæmorrhage—during the transit to a distant hospital. The accidents which have occurred have been treated at the homes of the sufferers and at the expense of the firm. Hitherto there has not been a single death from this cause.

The writer, from his medical duties, has been constantly in the town night and day, and can bear testimony to the great absence of drunkenness, whilst in many of the houses no spirit is kept except on the approach of a confinement in the family.

There is a remarkable absence of venereal and kindred diseases.

During the visitation of cholera to this country a system of disinfecting and deodorizing by means of the application of carbolic acid and chloride of lime to the drains, ashpits, privies, and sinks was carried out. The carbolic acid was given to any one who would mix it with lime for the purpose of whitewashing. The result was remarkable. No case of cholera occurred, and even an immunity from typhoid fever and other autumnal diseases was experienced.

Having thus briefly drawn attention to the general moral and physical condition of the people, it is well to look at the other side of the question, and mark the direction in which progress has still to be made.

The prevalent diseases in manufacturing districts are typhoid fever and phthisis, and these are therefore the most common forms of serious ailment at Saltaire. To get rid of consumption from the disease list is almost, if not quite, impossible. Where persons of different temperament, constitutional vigour, and age, often carelessly clothed, leave home early in the morning, generally without partaking of food, and this in all kinds of weather and seasons, and that too in our irregular and often inclement northern climate, consumption must and will result. The question involved rests more upon the people themselves than one in which masters can interfere. The workpeople can only be taught that warm clothing instead of finery, good food and regular hours, combined with home sanitary regulations, are necessary to keep down this terrible malady. Much is accomplished at Saltaire to prevent the disease by having the works erected close to the town, so that there is really no excuse for the workpeople going to their work in wet clothes, and further by the mills and sheds being so thoroughly well lighted, warmed, and ventilated.

With regard to typhoid fever it is otherwise, although from this cause very few deaths have occurred. This is a disease which can be kept down by sanitary regulations.

What precautions then are necessary?

1st.—An absolute restriction to prevent the overcrowding by lodgers in any one house. Let a proper number of cubic feet be allowed to each inmate, and on no pretext whatever ought this rule to be evaded.

2nd.—A system of ventilation with which the inmates cannot interfere. Instances have occurred in which it has been purposely obstructed.

3rd.—The system of drainage at Saltaire is thorough and complete. Bell traps to sinks if fixed become choked ,and if unfixed are removed

Names.

SALTAIRE—*cont.*

and frequently lost. Syphons in the drains do not always prevent the back current from them. Where the night soil is preserved in ashpits, as at Saltaire, for agricultural purposes, a system is required for removing it without annoyance to the people. Recently an admirable plan has been adopted, by which the inhabitants are compelled to empty their dust and ashes into the closets, so that the ordure is constantly mixed with that best of disinfectants, finely divided carbon and dry earthy matter. This ought everywhere to be done. Provision is made for the immediate adoption of every sanitary improvement. A few of the lessons to be learned by a visit to Saltaire have been briefly pointed out, and though others might be given, these will probably suffice.

(Signed) SAMUEL RHIND,
L.R.C.P. Edin., M.R.C.S. Lond.,
Scholar in Anatomy and Physiology.

Victoria Park,
Shipley, near Leeds.

STAFFORD ROAD WORKS.

1. Eleventh annual report of the Stafford Road Institution.
2. Catalogue of books at the Stafford Road Institution.
3. Rules and regulations to be observed at the works.

STONEYWOOD WORKS.

1. LETTER CONCERNING THE SYSTEM AT THE WORKS.

DEAR SIR,

I AM in receipt of your favour requesting information, in terms of the resolutions of the Paris Imperial Commission, about our different works. Fully appreciating the advantages that may be gained by a more general knowledge of what different firms in this country may have effected in rendering the position of their work-people a happy and prosperous one, I have gladly, on part of my fellow partners, answered the questions that relate to our establishment. As I see that the jury also recommended the giving the results in the form of a summary, I shall shortly subjoin a brief abstract of what our firm have from time to time done towards making the interests of the work-people our own.

I must first premise that as our particular manufacture is perfectly free from all government inspection, and is not affected by any factory legislation, all that our firm may have done has been entirely spontaneous. I merely mention this, as you will doubtless be glad to have cases, where the employers and employed are quite untrammelled in their mutual relations.

The Imperial Commission ask for cases where "the material, moral, "and intellectual welfare of the workmen is assured, and where a spirit "of harmony exists." I shall briefly enumerate the few facts, that should prove that these two leading conditions exist in our works, and trust any information I may give will be of service to you.

FIRST then of the welfare of our work-people in its different phases.

I. Of their *material welfare.*—That we have a prosperous body of workmen under us I think is proved by the following facts put briefly.

1. The existence of a penny savings bank conducted by themselves, and as you will see by our answer to the question, fairly well supported.

2. Several of our men possess houses and other properties, bought by the surplus from their wages.

3. The work people as a body contribute to a fund to provide medical aid, &c. to any who may be laid up in any lengthy disease. Besides, I could give you numerous instances where large subscriptions have been made, entirely amongst the workers, to assist any of their body who may have had any sudden loss of money or farm stock, &c.

4. A general shop on the co-operative principle has just been established by a body of the work-people in the vicinity of the works.

5. The almost complete absence of poor people is proved by the extremely high rates of rent all round this neighbourhood. None but very industrious and steady families can afford to pay it, and the result

Names.

STONEYWOOD WORKS—*cont.*

has been that all idlers have been insensibly pushed out. The high rents are themselves a misfortune, and we have long cast about for some means of remedying it. We have ourselves put up numerous cottages, and induced others to do the same. Unfortunately, however, the fact that the neighbouring property is an entailed one, and the price of the fens out of all reason, has prevented much being done, our own property here being fully occupied. All we have been able to do besides to remedy this has been to convey workers, residing in Aberdeen, out by special trains morning and evening.

6. We have erected a building in the vicinity of the works for cooking meals for any of the workers that wish it, where also they may all adjourn during meal hours with the food they may have brought. We have also in contemplation a scheme for supplying any of the workers with cheap meals on a principle similar to what has been attempted in some of our large towns, notably in Glasgow.

7. In the class above the workers. We are ourselves the holders in trust of surplus money from salaries, deposited in our hands, while we have given some of our leading managers good opportunities for the investment of savings.

II. *Intellectual welfare.*

1. At our own expense we have erected large schools for the children of our workers, with accommodation for full 300 pupils, and presided over by two mistresses and a master. All annual expenses paid by us, assisted by the Government grant and a trifling amount of fees.

2. At these schools evening classes, male and female, are held for grown up persons already working.

3. We established a series of lectures, instructive and amusing, given during the winter on different Saturday evenings, and held in the largest apartment of the schools, which is capable of holding some hundreds. The management of these lectures has been put into the hands of a committee of the workers during the present winter.

4. We have established a library for the use of our people, which is kept up and yearly increased by their small annual subscriptions, supplemented by certain amounts from ourselves. This also is managed by a committee of the workers.

5. An association has been established amongst the workers themselves, aided by some of our clerks and managers, for self-instruction,—reading of essays, practice of elocution, &c.; and this body frequently give entertainments of humorous readings, recitations, songs, &c., either in connexion with the Saturday evening meetings, or as a separate amusement. There is also a choral society for practice in singing, led by a professional from Aberdeen, who is paid by themselves. Another society has been long established for the more special practice of debating.

III. *Moral welfare.*—The facts that have been just noted show what has been done in one direction—the mental—to keep up the morality of the workers; for all these numerous intellectual amusements or studies, from giving employment in idle moments, aid greatly in giving a high tone to it. There is another means of equal service—physical amusements. We will briefly note what has been done in this direction.

1. We have given up to the workers a large field, of some seven or eight acres, which has been levelled and laid down as a cricket ground; where also the more Scotch games of the stone, hammer, and caber may be practised. We have also erected a stand for a protection to spectators, and with some rooms for the stowing away of the cricket things, &c. This ground is kept in order by a committee of the workers, and they have also, with a little assistance from us, bought for themselves a large tent, and full set out of cricketing things sufficient for two or three simultaneous matches.

2. Once a year a grand athletic contest amongst the workers is held in this field, for jumping, running, the Scotch games, &c., for good prizes, partly contributed by the entrance money, and the rest supplied by ourselves. We make it an annual holiday. The ground is kept and the games managed entirely by the workers, with some slight assistance from ourselves, and although some thousands are generally present complete order is kept. The grounds of the resident partners are thrown open to the public, and though they are free to wander where they like on no occasion has any damage been done.

Names.

STONEYWOOD WORKS—*cont.*

3. Two flower shows, a spring and an autumn one, are held in the largest room in the school buildings, with prizes for competition amongst the workers, partly supplied by themselves, with some slight assistance from the firm, also entirely managed by a committee of the workers. We greatly favoured the establishment of these shows, as a very easy mode of giving healthy employment in leisure times, and have set apart a small piece of ground to each of our cottages where we were able. The competition is very fair.

4. We give our work-people permission to fish on about a mile and a half of water, fully two-thirds of the fishing we possess on the River Don, one of the finest trout and salmon rivers in Scotland. This permission is highly valued, and is, we are sure, one of the surest means of keeping the more active spirits engaged in their leisure time.

Thus much of the welfare of the work-people. A few words SECONDLY on the harmony between employers and employed. That this exists there can be no doubt after the enumeration of the few facts we have already given you. A few more facts prove it still more strongly.

1. We have had in our recollection no strikes.

2. There neither are, nor ever have been any unions or combinations amongst the work-people.

3. The greater portion of the workers have been all their lives in our employ. Of the few that may wish an enlarged experience and leave our works, many, if not most, return after an interval.

4. In the arrangements for the annual games, when a good deal of labour is required under our direction, all the crafts turn out and work with the greatest spirit for hours after work hours, giving us all their labour free. It is of course in the end for their own pleasure, but it is not the less worthy of merit. Often in the evening there will be from 50 to 100 mechanics and carpenters on the ground till dusk putting up railings, &c.

5. The harmony existing between the work-people and our under managers is very pleasantly displayed by the different divisions of the former annually inviting the superintendents respectively set over them to a dinner or supper, generally held in Aberdeen. These meetings always have our support.

I trust that these facts, hastily put together I am afraid, with the replies to the questions, will give you the information you require about our establishment, and may be of assistance to the Imperial Commission for any object they may have in view. I may mention that our desire throughout in the different steps that have been taken as detailed above has been that the first move should if possible be made by the workers themselves, and that all arrangement and management should if possible come from them,—at least when any project has been fairly started; we are so fully convinced that no intellectual or moral move has any certainty of success when first started by the employers. The only true and natural course is for the employed to move for themselves; the duty or perhaps the wisest course for employers being to attempt to educate and induce their workers to that action. On this account, though we have one or two more projects in view, we bide our time, as we scarcely think our workers are ripe for them. For instance, the works library, the Saturday evening entertainments, and the debating society might combine and enlarge into what would be a real mechanics' institute, governed and managed by the workers themselves and not by their superiors. Our people, however, as being only a country population, are, we think, scarcely ready for this.

But I am wandering from the subject. Excuse haste in this letter.

Yours truly,

H. Cole, Esq. F. LOGIE PIRIE.

2. Rules and Regulations for Workpeople.

TAILORS' LABOUR AGENCY

1. A brief explanation and history of the agency.

WINFIELD, R. W. & Co.	1. Rules and regulations at rolling mills. 2. Extract from "Midland Counties Herald" concerning Messrs. Winfields' schools. 3. Rules and book of Cambridge Street works school savings bank. 4. Report of school. 5. Handbook of the works. 6. Rules of the Cambridge Street works sick society. 7. Extracts from local newspapers concerning excursions of work people from the Cambridge Street works, the provident institution, the visit of the British Association to the works, and the evidence of Mr. Aitken, a manager at the works, before the Childrens' Employment Commission. 8. A copy of "Essays upon Educational Subjects, read at the Educational Conference, June 1857. 9. Drawing of interior of schoolroom at the works.

14.

II.—BUILDING SOCIETIES.

Name.	**1. Name of the Establishment.** *a.* **Where situated.** *b.* **Full postal address.**
COLUMBIA SQUARE, DWELLING HOUSE FOR POOR.	Columbia Square. *a.* Charles Street and Crab Tree Row, Bethnal Green, London. *b.* Columbia Square, Bethnal Green, London, N.E.
HALIFAX, PERMANENT BENEFIT BUILDING SOCIETY.	Halifax Permanent Benefit Building Society. *a.* Halifax in Yorkshire. *b.* Central Buildings, Waterhouse Street, Halifax.
HASTINGS COTTAGE IMPROVEMENT SOCIETY.	Hastings Cottage-Improvement Society, Limited. *a.* Hastings. *b.* 37, Robertson Street, Hastings.
IMPROVED INDUSTRIAL DWELLINGS COMPANY.	The Improved Industrial Dwellings Company, Limited. *a.* In London. *b.* 2, West Street, Finsbury Circus, London, E.C.
SOCIETY FOR IMPROVING THE CONDITION OF THE LABOURING CLASSES.	Society for Improving the Condition of the Labouring Classes. (*a*) London. (*b*) 21, Exeter Hall, Strand, London, W.C.
LEEDS PERMANENT BENEFIT BUILDING SOCIETY.	Leeds Permanent Benefit Building Society. (*a*) Park Row, Leeds. (*b*) As above, Yorkshire.
LONDON LABOURERS' DWELLINGS SOCIETY.	London Labourers'-Dwellings Society, Limited. *a.* London. *b.* 66, Cannon Street, London, E.C.
MARYLEBONE ASSOCIATION FOR IMPROVING THE DWELLINGS OF THE INDUSTRIOUS CLASSES.	Marylebone Association for Improving the Dwellings of the Industrious Classes. *a.* Parish of St. Marylebone, London. *b.* 65, Marylebone Road, London, N.W.
METROPOLITAN ASSOCIATION FOR IMPROVING THE DWELLINGS OF THE INDUSTRIOUS CLASSES.	The Metropolitan Association for Improving the Dwellings of the Industrious Classes. Office, 19, Coleman Street, London, E.C.
VANCE'S MODEL LODGING HOUSES IN DUBLIN.	Three different establishments. *a.* No. 1, model lodging-houses for single men (furnished), 64 and 65, Capel Street, Dublin; No. 2, model dwellings for families, Lower Bridge Street, Dublin; No. 3, model dwellings for families, Bishop Street and Kevin Street, Dublin; comprising 25 houses.

	2. Name of the proprietor, or body of proprietors.
COLUMBIA SQUARE -	Miss Angela Georgina Burdett Coutts.
HASTINGS - -	The property belongs to 74 shareholders.
INDUSTRIAL DWELLINGS.	Mr. Alderman and Sheriff Sir Sydney Waterlow, Chairman; eight Directors, and 100 Shareholders. The extent of their individual interests in the concern vary from 25*l.* to 7,000*l.*
LEEDS PERMANENT BUILDING SOCIETY.	Messrs. Frederick Jackson, Alderman Carter, and Richard Bissington, Trustees, and the Committee of Management.
LONDON - -	The property belongs to 46 shareholders.
MARYLEBONE -	President, Joseph Grote, Esq.; Chairman, Lord Radstock.

Name.	
METROPOLITAN -	The noblemen, ladies and gentlemen, 472 in number, named in the accompanying list of shareholders [No. 4].
VANCE (DUBLIN) -	Thomas Vance, Esq., J.P., Blackrock House, co. Dublin.

3. Name in full, description, and address of the correspondent or secretary of the institution.

COLUMBIA SQUARE -	Henry Astley Darbishire, Fellow of the Royal Institute of British Architects, 4, Trafalgar Square, London, W.C.
HALIFAX - -	Jonas Dearnley Taylor, Secretary, Central Buildings, Waterhouse Street, Halifax.
HASTINGS - -	William Alexander Greenhill, M.D., 2, Carlisle Parade, Hastings.
INDUSTRIAL DWELLINGS.	Jonathan Aldous Mays, Secretary, 2, West Street, Finsbury Circus, E.C.
LABOURING CLASSES	Charles Payne, Secretary, 21, Exeter Hall, Strand, London, W.C.
LEEDS PERMANENT BUILDING SOCIETY.	Mr. John M. Sims, Secretary, and Mr. John Bell, Manager, Park Row, Leeds, Yorkshire.
LONDON - -	William Alexander Greenhill, M.D., 2, Carlisle Parade, Hastings.
MARYLEBONE -	Charles Rosser Stokes, 65, Marylebone Road, London, N.W.
METROPOLITAN -	Charles Gatliff, secretary, 19, Coleman Street, London, E.C.
VANCE (DUBLIN) -	Mr. John O'Brien, No. 9, Lower Bridge Street, Dublin.

4. Principal object of the establishment.

COLUMBIA SQUARE -	To afford decent domestic accommodation for the poorest members of the industrious classes, whose weekly wages will not allow them to live in dwellings with a higher rental.
HALIFAX - -	1. To afford to persons becoming shareholders the means of investing their savings by periodical instalments with safety and advantage. Investment withdrawable with interest at one month's notice. 2. To afford to persons not being shareholders an opportunity of depositing money in small or large sums without any liability, easily withdrawable, and realizing a higher rate of interest than can usually be obtained from other places of deposit. 3. To advance money to shareholders for short or long periods. Repayment, principal and interest, by monthly or other instalments. To enable them to secure homes of their own, or For the purchase of land, dwelling houses, manufactories, trade premises, or other real property, or For the erection of dwelling houses, manufactories, trade premises, &c., or For redeeming real property already in mortgage to private persons.
HASTINGS - -	The improvement of the dwellings of the labouring classes in Hastings and its neighbourhood.
INDUSTRIAL DWELLINGS.	*See* Printed Statement marked A.
LABOURING CLASSES	The erection of new, and the adaptation of old buildings, as improved dwellings for the labouring classes.
LEEDS PERMANENT BUILDING SOCIETY.	To enable the members of the society to purchase freehold, leasehold, and other real property.
LONDON - -	The improvement of the dwellings of the labouring classes in the metropolis.

Name.	
Marylebone -	To acquire houses or ground in densely populated districts, and by adaptation or building to provide the poorer classes with cleanly and healthy dwellings at moderate rents, and to improve the tenants by cultivating habits of cleanliness, decency, quiet, and order among them.
Metropolitan -	"For the purpose of providing, by the alteration of existing "buildings or the erection of new buildings, more commodious "and healthy lodgings or dwellings for the industrious classes," the rate of dividend being limited to 5*l.* per cent. See sections 5 and 23 of copy Charter of Incorporation herewith [No. 1.]
Vance (Dublin) -	To promote the health, cleanliness, comfort, and morality of the labouring classes.
	5. By whom was it formed?
Columbia Square -	Miss Burdett Coutts.
Halifax - -	It was formed by the gentlemen who still have the management of its affairs, and whose names are given in the copy o rules sent herewith.
Hastings - -	The persons who attended the meeting held Jan. 15, 1857, at which the society was established, and who therefore may be considered its founders, were, the late Rev. H. S. Foyster, the Rev. Thos. Vores, and Dr. Greenhill.
Industrial Dwellings.	Sir Sydney Hedley Waterlow, Alderman and Sheriff of London and Middlesex.
Leeds Permanent Building Society.	Messrs. Bell, Sims, and many others agreeing.
London - -	It was suggested by a lady connected with the St. George's Mission, and established by Richard Foster, Esq., of 42, Moorgate Street, London; Arthur Witherby, Esq., of the Stock Exchange, London; Frederick Charrington, Esq., of Mile End, London; and Dr. Greenhill, of Hastings.
Marylebone -	Joseph Grote, Esq., of the firm of Prescott, Grote, & Co., Bankers, Threadneedle Street.
Metropolitan -	The Rev. Henry Taylor Matthew Ion, James Day, Thomas Gatliff, Theodore Compton, and Charles Gatliff were present at the first meeting, held 15th September 1841. (See copy resolutions herewith, No. 5.)
Vance (Dublin) -	By Thomas Vance.
	6. When was it established?
Columbia Square -	The first of the four buildings was opened on the 18th April 1859, the last was opened on the 5th of May 1862.
Halifax - -	In January 1853, under the provisions and protection of the Act of Parliament 6 & 7 Will. 4. c. 32.
Hastings - -	15th January 1857.
Industrial Dwellings.	May 1863.
Labouring Classes	In 1844, and incorporated by Royal Charter in 1850.
Leeds Permanent Building Society.	November 8, 1848.
London - -	22d February 1861.
Marylebone -	Incorporated by Royal Charter in May 1854.
Metropolitan -	Date of Royal Charter of Incorporation 16th October 1845.
Vance (Dublin) -	No. 1 in 1852, No. 2 in 1854, No. 3 in 1866.
	7. Have the works or the institution ever been suspended? If so, for how long, at what date, and from what cause?
Columbia Square -	Neither the works previous to completion, nor the institution since its being first opened have been suspended.

Name.	
Halifax - -	No.
Hastings - -	No.
Industrial Dwellings.	No. The number of buildings erected by the company has steadily increased from the beginning, and additional capital and sites are constantly being offered to the directors for the purpose of assisting in the further development of the company's operations.
Leeds Permanent Building Society.	Never suspended.
London - -	No.
Marylebone -	The works have never in any way been suspended.
Metropolitan -	No.
Vance (Dublin) -	Never.

8. State the number of persons at present employed or received into the institution.

a. **Adults, male and female.**

Columbia Square -	Males, 187. Females, 205.
Halifax - -	Investors, 1,963; depositors, 1,503; borrowers, 523; total, 3,989.
Industrial Dwellings.	Males, 276. Females, 320.
Marylebone -	The association has at present 418 tenants paying weekly rents at the following rates, 1*s.* 6*d.*, 1*s.* 9*d.*, 2*s.*, 2*s.* 3*d.*, 2*s.* 6*d.*, 3*s.*, and 3*s.* 3*d.* for single rooms; 3*s.* 6*d.*, 4*s.*, 4*s.* 6*d.*, 5*s.*, and 5*s.* 6*d.* for double rooms.

b. **Young persons.**

Columbia Square -	Within the ages of 14 and 21. Males, 24. Females, 25.
Industrial Dwellings.	Within the ages of 12 and 20. Males, 134. Females, 140.

c. **Children.**

Columbia Square -	Total 260, under 14.
Industrial Dwellings.	Males, 245. Females, 265.

d. **And the average number in each during 10 Years.**

Industrial Dwellings.	Total 1,380.
Vance (Dublin) -	Adult males, about 210; females, about 230. Young persons and children: males, about 160; females, about 200, and children.

9. Are there any restrictions or qualifications for admission or employment in labour, namely,—

a. **Age, and at what age?**

b. **Instruction?**

c. **Apprenticeship, or other period of service?**

Columbia Square -	It is necessary that the applicant for residence shall bear a good character from his last landlord, that all his past rent-charges shall be paid, and that he does not belong to a class of workmen superior in the social scale to that for which the buildings were intended. That his weekly wages and the number of his children are consistent with the accommodation of his dwelling.
Halifax -	No. Any married women or other female, also minors, with consent of parents, masters, or guardians, may become investing members. Open to all classes of society, but especially adapted for the weekly or monthly savings of the poorer class.

Name.	
Industrial Dwellings.	No.
Marylebone -	No other restrictions than as against taking in lodgers, overcrowding, and annoyance of other tenants. The qualification for tenancy is that the tenant and his family should be orderly, cleanly, and decent.
Vance (Dublin) -	Good character the only requisite.

11. What regulations are made to enable the married females employed to attend to their family and domestic duties?

Columbia Square	*See Reply No.* 69.
Marylebone -	The model buildings contain cottage ranges, ovens, and boilers, washhouses with coppers, and water-closets on each floor; every appliance for cleanliness and convenience being thus afforded to the tenants and their families.
Vance (Dublin) -	Bath rooms, laundry, and drying rooms, with every sanitary accommodation, have been provided in each.

13. Has the establishment been remunerative or otherwise?

Columbia Square	The return upon the cost of the buildings is as nearly as possible 2½ per cent. (*See Reply No.* 69.)
Halifax - -	Yes. Extract from Report, dated March 15, 1866. "The "directors have pleasure in meeting the members at this the "Thirteenth General Annual Meeting, and are able to say that "this society has successfully, and without loss, gone through "its first period." This statement continues true up to the present time.
Hastings - -	From the first establishment of the society the shareholders have received a half-yearly dividend on their shares at the rate of never less than 5 per cent. per annum.
Industrial Dwellings.	It has. From the profit rentals received, dividends equal to 5 *per cent.* per annum are paid to the shareholders, and in addition to the profits thus divided, annual balances equal to 1½ per cent. upon the original capital is carried to the credit of a reserve fund for meeting contingencies.
Leeds Permanent Building Society.	Yes; remunerative.
London - -	From the first establishment of the society the members have received a half-yearly dividend on their shares at the rate of 5 per cent. per annum.
Marylebone -	The association has, until the last year (1866), been prejudiced by the smallness of its capital (16,000*l.*) In 1857 the dividend was 2*l.* 10*s.* per cent. No further dividend was declared until 1862, when it was 2*l.* per cent; for 1863 and 1864, 1*l.* per cent.; for 1865 and 1866, 2*l.* per cent., a competent reserve fund being in the meantime accumulating. In the latter part of last year (1866) 10,000*l.* fresh capital was subscribed for the specific purpose of purchasing a freehold estate of 46 houses, in a very dense and low locality, on the faith of a preferential dividend of 4*l.* 10*s.* per cent. The accounts shew that the 4*l.* 10*s.* per cent. will be paid, and a considerable balance remain to be dealt with by the board.
Metropolitan -	As pioneers in this great movement, this association has had many expenses and difficulties to contend with, and among others the cost of their charters of incorporation alone, amounting to 1,612*l.* 15*s.* 4*d.*, and other preliminary expenses, together amounting to 3,203*l.* 16*s.* 7*d.*, which being entirely

Name.	
Metropolitan—*cont.*	unproductive bore heavily upon the originally subscribed capital, which was small; but as the capital has increased, the burden being spread over a larger area became less oppressive, and the operations of the association have been more remunerative.
Vance (Dublin) -	Those for families have been remunerative; those for single men not so.

14. Is any pecuniary assistance received from the Government, or from any other body not participating in the profits? If so, define its nature and amount.

Columbia Square	No pecuniary assistance is received from government or from any other source.
Halifax - -	No.
Hastings - -	No pecuniary assistance has been received from the Government, nor have any subscriptions or donations been received from individuals, towards establishing or carrying on the society.
Industrial Dwellings.	No.
Leeds Permanent Building Society.	Exemption from Stamp duties on deeds.
London - -	No pecuniary assistance has been received from the Government, nor have any subscriptions or donations been received from individuals, towards establishing or carrying on the society.
Marylebone -	No.
Metropolitan -	No pecuniary assistance has been received from the Government, and in all cases where individuals have pressed donations on the association they have been declined and returned; the object of the association being, not to solicit charitable contributions, but to exhibit that a fair profit could be made by letting decent and healthy lodgings at moderate rates, so as to induce capitalists to invest their money in such buildings as a commercial enterprise.
Vance (Dublin) -	No assistance whatever.

15. Has the establishment any special privilege, or monopoly of any kind, and what is its nature?

Columbia Square	None.
Halifax - -	Exemption from stamp duties.
Hastings - -	It has no special privilege or monopoly of any kind.
Industrial Dwellings.	No.
Leeds Permanent Building Society.	None.
London - -	It has no special privilege or monopoly of any kind.
Marylebone -	No.
Metropolitan -	The association has no monopoly, and the special privilege enjoyed under their Royal Charter of Incorporation is the limitation of the liability of the shareholders to the amount of the shares held by them.
Vance (Dublin) -	None whatever.

15a. Enclose a copy of all rules framed for the government of the establishment, or any information which may specially refer to it, and any plans of the buildings?

Columbia Square	*See Reply No.* 69.
Hastings - -	Copy sent herewith.

Name.	
Industrial Dwellings.	Copies of the "Conditions of Occupation," under which the tenements are let, are sent herewith. Plans and elevations of one of the blocks of tenements are also enclosed, and the Commissioners are respectfully requested to refer to plans and models which will be sent to the International Exhibition 1867, and identified with this application.
Leeds Permanent Building Society.	Rules herewith, and papers No. 1 to .
London - -	Copy sent herewith.
Marylebone -	Documents forwarded :—Prospectus and list of shareholders and donors made up to June 1866. The 12 reports. The rules. Circulars as to new subscribers.
Metropolitan -	Rules, terms, and plans, numbered 10 to 13, are herewith sent.
Vance (Dublin) -	Plans sent herewith.
	16. Of how many partners does the establishment consist?
Industrial Dwellings.	109.
	17. Is their pecuniary responsibility limited?
Industrial Dwellings.	Yes.
	18. Is the capital divided into shares, or owned in parts? If so, how many, and of what amount, or in what proportions?
Industrial Dwellings.	Capital 250,000*l.*, part fully paid up and part subscribed in 25*l.* shares, upon which calls are made as required.
	19. During the last five years, what has been the average yearly profit per cent., and in what proportion, and according to what principle, has it been divided among— **(1.) The partners or shareholders.** **(2.) The workpeople.** **(3.) Any other persons.** **(4.) Devoted to capital or other purposes.**
Industrial Dwellings.	(1.) Have received 5 *per cent.* on capital since commencement, and a large reserve fund has been created out of profits. (2.) Have received no gratuities. (3.) None. (4.) This does not apply.
	23. Have dwellings, at the cost of the establishment, been provided for the workpeople? *a.* **Of what character?** *b.* **When erected?** *c.* **How many?** *d.* **And at what cost?**
Vance (Dublin) -	As a merchant I have provided dwellings at my own expense, at before stated, at a cost exceeding 12,000*l.*
	24. What are the average weekly rents paid for such dwellings? *a.* **By a family?** *b.* **By a single workman?**
Vance (Dublin) -	*a.* From 3*s.* to 5*s.* a week. *b.* From 2*s.* to 3*s.* a week.

Name.

25. Are any, and what, regulations made and enforced relative to periodical cleansing of the dwellings and workshops?

VANCE (DUBLIN) - A person employed throughout the year to keep the different establishments in a cleanly state.

26. Is there any co-operative society, or arrangement amongst the workmen for the purchase of food or clothing, and how is the management provided and paid for?

COLUMBIA SQUARE A co-operative society has been established by the residents of Columbia Square, which is managed entirely by a secretary appointed by themselves. Two rooms and a cellar are occupied by the society on the ground floor of the north building, for which a rental is paid to Miss Coutts. The society answers very well, and has been established some years.

50. By whom is it managed?

VANCE (DUBLIN) - By three male and one female managers.

51. What is its gross annual income, and whence derived?

HASTINGS - - - Last year it was 1,774*l.* 13*s.*; viz., 1,772*l.* 8*s.* from the rent of houses and other tenements, and 2*l.* 5*s.* from fees on transfer of shares. The expenses connected with the property were 715*l.* 8*s.*

INDUSTRIAL DWELLINGS. See a printed statement marked A. (Appendix).

LABOURING CLASSES

Abstract of Cash Account from January 1st to December 31st, 1865.

Dr.

	£	*s.*	*d.*	£	*s.*	*d.*
To balances on the 31st December, 1864, viz.—						
At bankers - - -	75	19	1			
In the hands of the Managers	196	19	0			
Cash in hand - -	14	1	11			
				287	0	0
To rents received from the following houses, viz.—						
Portpool-lane dwellings -	486	6	0			
,, washhouse -	389	12	3			
George-street - -	719	7	6			
Streatham-street - -	739	3	3			
Charles-street - - -	411	19	6			
Clark's-buildings - -	581	15	3			
Hatton-garden - -	324	13	6			
Wild-court - - -	632	2	9			
Tyndall's-buildings - -	681	12	2			
				4,966	12	2
To rent from freehold house in Portpool-lane - - -	-	-	-	36	0	0
To legacies - - -	-	-	-	324	18	0
To general donations - -	103	5	0			
To annual subscriptions - -	340	16	6			
				444	1	6
To sale of Great Northern Railway Stock (200*l.*) - -	196	0	0			
Dividends to date - -	13	9	10			
				209	9	10
				6,268	1	6

Name.	*Cr.*	£	s.	d.	£	s.	d.
Labouring Classes —*cont.*	By re-payment of loans				500	0	0
	By part re-payment of loan of 750*l*.				250	0	0
	By interest on loans and mortgages	974	10	8			
	Deduct income tax	19	17	0			
					954	13	8
	By sundry creditors, due 31st December 1864				86	6	4
	By current expenses (including repairs) of the following houses, as shown by tabular statement annexed, viz.—						
	Portpool-lane dwellings	198	15	6			
	Ditto washhouse	484	8	3			
	George-street	428	9	2			
	Streatham-street	327	15	11			
	Charles-street	253	17	1½			
	Clark's-buildings	500	4	10			
	Hatton-garden	241	11	6			
	Wild-court	433	17	4			
	Tyndall's-buildings	496	6	8			
					3,365	6	3½
	By printing publications, &c.	28	19	10			
	Deduct proceeds of sale of plans and publications	19	1	7			
					9	18	3
	By books and stationery				18	17	4
	By collector's poundage				19	1	6
	By salaries and manager's commission				502	1	5
	By industrial exhibition—balance of expenses				141	8	4
	By rent of offices, coals, cleaning, postages, advertisements, and all incidentals				119	5	9
	Balances on the 31st December 1865, viz.—						
	At bankers	217	1	3			
	Ditto special fund	68	1	6			
	In the hands of the managers	5	17	4			
	Cash in hand	10	2	6½			
					301	2	7½
					6,268	1	6

We have examined these accounts with the books and vouchers, and find them correct.

Frederick Latreille,
Robert Low, } Auditors.

June 4th, 1866.

Name.

LABOURING CLASSES —*cont.*

TABULAR STATEMENT showing the Rates, Taxes, Repairs, and other Expenses of each Establishment, for the Year ending December 31, 1865.

Payments.	Portpool Lane Dwellings.	Portpool Lane Laundry.	George Street.	Streatham Street.	Charles Street.	Clark's Buildings.	Hatton Garden.	Wild Court.	Tyndall's Buildings.	——	TOTAL,
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Rent	- - -	- - -	- - -	- - -	44 1 3	269 16 11	54 16 8	203 6 10	226 5 10	- - -	798 7 6
Poor and police rate	25 13 4	3 10 0	18 15 0	56 5 0	7 10 0	27 10 0	8 0 0	26 5 0	28 9 4	- - -	201 17 8
General rate	10 1 8	1 7 6	7 10 0	22 10 0	3 0 0	11 0 0	4 0 0	10 10 0	11 3 8	- - -	81 2 10
Sewers rate	1 7 6	0 3 9	3 15 0	11 5 0	1 10 0	5 10 0	0 13 4	5 5 0	1 10 6	- - -	31 0 1
Metropolitan rate	5 19 2	0 16 3	2 10 0	7 10 0	1 0 0	3 13 4	1 0 0	3 10 0	6 12 2	- - -	32 10 11
House duty	7 10 0	28 2 6	6 15 0	- - -	2 12 6	9 3 9	3 15 0	5 6 6	1 16 0	- - -	36 18 9
Land tax	17 1 3	44 12 3	9 1 2	22 7 11	3 19 4½	10 10 8	- - -	11 14 5	- - -	- - -	74 14 9½
Property and income tax	9 2 6	7 10 0	6 5 0	10 8 4	1 9 2	8 4 7	3 6 8	5 5 0	6 11 8	- - -	50 12 11
Ground rent	- - -	- - -	- - -	48 19 2	- - -	- - -	- - -	- - -	- - -	- - -	48 19 2
Tithe	0 8 0	- - -	- - -	- - -	- - -	- - -	1 0 0	- - -	0 10 0	- - -	1 18 0
Water	14 11 0	- - -	13 0 0	20 0 0	2 16 0	21 0 0	6 1 6	15 2 0	13 12 0	- - -	134 5 0
Gas	18 15 0	- - -	42 9 3	11 7 6	19 1 6	1 5 9	15 10 7	16 5 3	8 15 0	- - -	178 2 1
Insurance	0 8 0	- - -	5 19 0	3 9 0	1 16 1	12 7 6	0 8 0	5 15 6	2 2 0	- - -	39 15 1
Soap and cleaning materials	- - -	- - -	3 14 0	- - -	3 12 0	- - -	0 18 0	- - -	1 7 6	- - -	9 11 6
Coal, coke, and wood	- - -	137 10 0	40 4 0	- - -	25 17 6	- - -	24 12 0	- - -	14 18 0	- - -	243 1 6
Superintendents' and servants' salaries	37 11 3	177 12 6	127 8 0	52 16 0	68 12 0	53 18 3	78 15 3	65 9 10	85 16 0	- - -	747 19 1
Washing house linen	- - -	- - -	39 11 3	- - -	23 10 3	- - -	14 5 6	0 2 0	8 18 7	- - -	86 7 7
Sundries	- - -	13 8 11	6 6 8	1 17 6	2 15 7	1 4 8	3 3 0	0 4 0	2 8 11	- - -	31 9 3
Furniture, fixtures, linen, &c.	- - -	7 5 0½	32 19 4	1 4 6	7 4 6	1 3 0	7 1 6	0 9 6	21 6 9	- - -	78 14 1½
Repairs	50 6 10	62 9 6½	62 6 6	57 16 0	33 9 5	63 16 5	14 4 6	59 6 6	54 2 9	- - -	457 18 5½
Total charges	198 15 6	484 8 3	428 9 2	327 15 11	253 17 1½	500 4 10	241 11 6	433 17 4	496 6 8	- - -	3,365 6 3½
Net rents, balance of Profit	287 10 6	- - -	290 18 4	411 7 4	158 2 4½	81 10 5	83 2 0	198 5 5	185 5 6	1,696 1 10½	1,601 5 10½
Net rents, balance of Loss	- - -	94 16 0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	94 16 0	
Gross rents	486 6 0	389 12 3	719 7 6	739 3 3	411 19 6	581 15 3	324 13 6	632 2 9	681 12 2	- - -	4,966 12 2
Cost	9,533 15 7	3,140 12 3	6,426 14 2	8,916 15 11	1,163 14 2	1,161 10 5	1,077 14 7	3,364 19 11	2,699 11 0	- - -	37,485 8 0

Name.

LEEDS PERMANENT BUILDING SOCIETY. 188,706*l.* 1*s.* for 1865. 1866 will be more, but not returned until March 1867.

LONDON - - Last year it was 2,335*l.* 16*s.* 7*d.*; viz., 2,239*l.* 11*s.* 7*d.* from the rent of houses, and 96*l.* 5*s.* from the dividends on the society's Sinking and Reserve Funds. The expenses connected with the property were 1,025*l.* 16*s.* 1*d.*

MARYLEBONE - October 1867. The preferential dividend above mentioned at the rate of 4*l.* 10*s.* per cent. per annum was duly paid out of profit rental in July last for the first half-year, and may, there is no doubt, be permanently depended upon. Besides this, the progress of the association has so far improved that a general dividend on the ordinary share capital was also declared in July of 3*l.* 10*s.* per cent. for the year instead of the 2*l.* per cent. which has previously been divided; and there is every reason to believe that this general dividend will be maintained, and most probably increased.

METROPOLITAN - The gross annual income for one year ending 31st March 1866, as appears by the audited accounts contained in the 22nd report, was 8,764*l.* 8*s.* 3*d.*, and has increased during the present year, and is derived from rents of the different properties of the Association.

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52. What are the annual expenses of management?
***a.* And of collection, where subscriptions are paid?**

HASTINGS - - Last year they were 195*l.* 12*s.* 6*d.* There are no subscriptions to collect, but the cost of collecting the rents was 88*l.* 10*s.*

INDUSTRIAL DWELLINGS. See a complete series of reports and balance sheets annexed hereto.

LABOURING CLASSES See answer to No. 51.

LEEDS PERMANENT BUILDING SOCIETY. 1851*l.* 11*s.* last year for all purposes.

LONDON - - Last year they were 219*l.* 5*s.* 9*d.* There are no subscriptions to collect, but the cost of collecting the rents was 87*l.* 10*s.* 3*d.*

METROPOLITAN - Of the chief office, 634*l.* 12*s.* 6*d.* See table No. 3, in 22nd report, paper No. 4.

None paid.

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53. What is the number of paid officers?

HASTINGS - - Treasurer, secretary, two visitors, two auditors.

INDUSTRIAL DWELLINGS. One; the secretary.

LABOURING CLASSES Four.

LEEDS PERMANENT BUILDING SOCIETY. Manager and Secretary, who employ two clerks each, 10 cash stewards employed one day a week, and 13 district agents.

LONDON - - Only the secretary.

METROPOLITAN - Three.

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54. And their salaries.

HASTINGS - - Last year they were as follows; viz.,

	£	*s.*	*d.*		£	*s.*	*d.*
Treasurer -	35	8	6	Visitors -	3	0	0
Secretary -	141	14	0	Auditors -	7	2	0

INDUSTRIAL DWELLINGS. His salary 240*l.* per annum.

Name.	
Labouring Classes Leeds Permanent Building Society.	See answer to No. 51. Manager and two clerks 339*l.* 4*s.* 6*d.* } for 1865. Secretary and two do. 436*l.* 3*s.* 0*d.* } 10 cash stewards 205*l.* 12*s.* 6*d.* gross. Agents partially employed 238*l.* gross.
London - -	Last year it was 198*l.* 11*s.* 6*d.*
Metropolitan -	300*l.* per annum secretary; 160*l.* chief clerk; 26*l.* junior clerk.
	55. The conditions on which the inmates are commonly received, and the average duration of their stay in the institution.
Industrial Dwellings.	See "Conditions of Occupation" referred to in answer No. 15 a. The company has not been in operation more than two or three years, but it has been noticed that all the tenants remain in occupation of the dwellings originally allotted to them, until compelled to quit from causes beyond the company's control.
Labouring Classes	(1.) Well recommended. (2.) The average duration in the family houses from one to three years. Exceptional instances of even 10 years. In others of only a few months, where the population is migratory, having no fixed settlement.
	59. Is there any provision to provide for or guard against— ***a.* Sickness.** ***b.* Education.** ***c.* Religious teaching.** ***d.* Recreation.** ***e.* Temperance.**
Hastings - -	Information on these points is given in the letter sent herewith.
London - -	Information on these points is given in the letter sent herewith.
Metropolitan -	No. No. Not interfered with. To Albert Street dwellings for 60 families, to Ingestre Buildings for 60 families, to Nelson Square for 108 families, to Pancras Square dwellings for 110 families, are attached large court yards for recreation, as also to Gatliff Buildings for 149 families. To 19 of Albert Cottages and 18 of Victoria Cottages small gardens and yards are attached; and libraries and reading rooms are attached to both Albert Street and Soho chambers for single men.
Vance (Dublin) -	*c.* A large hall has been erected on temperance principles on the Bishop Street property at a cost of upwards of 800*l.*
	60. What has been the average sum spent, under each of these heads, during each of the last five years?
Metropolitan -	27*l.* 9*s.* 5*d.* for newspapers and periodicals for Albert Street and Soho chambers.
	61. By whom, and under what control, are the funds managed?
Metropolitan -	Directors, secretary, and auditors.

Name.

62. Have you any other information to offer on this subject, or in regard specially to your establishment.

HASTINGS - -

Some further information in regard to the society is given in the letter sent herewith.

INDUSTRIAL DWELLINGS.

No; but the secretary will be happy to furnish further details upon any point.

LONDON - -

Some further information in regard to the society is given in the letter sent herewith.

METROPOLITAN -

In compliance with the suggestions of the International Jury, which held its first meeting at the Palais de l'Industrie on the 1st December 1866, the following "Statement of circumstances "which may serve to characterise the origin, development. "and prosperity of the undertaking," is made. And, first, I beg to call attention to the tabular statement herewith sent, No. 1.

The object of the table is to show the practical application of 119,429*l.* 15*s.* 1*d.* during the last quarter of a century, in the erection and alteration of improved dwellings "to render the "position of the working man more stable," and "to improve "the material condition of workpeople."

I have endeavoured to make the tabular statement sent herewith (No. 1) as intelligible as possible; but directing attention to particular points in it may be of use.

The years when the different buildings were erected is stated, which will explain, to some extent, the increased cost of construction, having regard to the present high rate of wages and materials. In 1846 a room cost 43*l.* 3*s.* 4*d.*, and a similar room cost 54*l.* 4*s.* 6*d.* in 1866.

Attention is called to the application of the total superficial areas of ground, a certain portion only being covered by the buildings, which, being in the case of dwelling houses on flats five or six stories high, enables the association to leave the remaining ground for recreation, which, with the building being lofty, secures better ventilation.

It will be seen that the association have expended the money of the shareholders in providing dwellings on three different plans; viz., dwellings on flats as in Scotland, or the chambers in the Inns of Court; dwellings in cottages, both in town and country; and also dwellings for single men in large buildings, where they are supplied with cooking utensils, beds, bedding, &c. But this last description of building has not hitherto been appreciated by the class for which it was intended.

The population and rate of mortality is shown, and this is also stated in each annual report for the last nine years.

The total number of families at present housed by the association is 622, in 2,154 rooms; 507 of such families occupy 1,708 rooms in the dwellings in the lofty buildings constructed on the principle of flats before referred to, and the remaining 115 families occupying 446 rooms in cottages in town and country, as shown in the tabular statement herewith sent (No. 1).

The average sizes of the rooms in the different sets and establishments are also stated, as well as the different conveniences in the shape of waterclosets, dust shafts, washing coppers, water supply, &c.

The cost of land, and the ground rent in case of leaseholds, and the proportion of such charge borne by each family, are also stated; and the table discloses interesting data on this point, showing that where the ground rent is 2*d.* or 3*d.* per week per family living on flats, the buildings do not pay so large a per-

Name.

METROPOLITAN—*cont.*

centage of profit as in the case of cottages, although the ground rent is 1*s.* 1*d.* and 1*s.* 3*d.* per week per family. This arises from the cost of construction per room being less, and the rents obtainable for such being higher than in the case of large blocks.

The cost of building is also shown under different aspects, as also the gross rents and expenses actually received and paid on an average of three years, authenticated by the audited accounts in the 22 annual reports herewith sent, Nos. 6 to 27, both inclusive.

From these and the tabular statement before referred to, it appears that the amount invested in family dwellings yields an interest of a little more than 5*l.* per cent.; but that, owing to the amount invested in preliminary expenses, and in chambers for single men, being entirely unproductive, the dividend at present payable on the entire capital is reduced to 3½*l.* per cent.

"The jury not having thought it right to exclude from the "competition, individuals or societies which, although not "engaged in agricultural or manufacturing pursuits, have "founded durable and prosperous institutions contributing to "the propagation of *good feeling and happiness*, of which it is "desirable to seek the best examples," these papers are sent in; and here attention is directed to the rate of mortality in the dwellings of this association, being on an average of six years 17 per thousand (*see 17th to 22nd Reports herewith sent*); while the average rate of the mortality of the metropolis generally has been 23⅔ per thousand. And it is difficult, perhaps, to say what is in reality more conducive to "good feeling and happiness" than the enjoyment of health, coupled with the fact of the laboring power of the working man being so much increased by the absence, to the extent shown, of mortality and consequently sickness.

In the programme published by the Imperial Commission it is stated that "the Jury may doubtless take into account, "among facts presented, the spirit of charity and beneficence, "but it is not specially charged to reward acts of that charac-"ter." It is submitted that this association has happily combined the commercial or self-supporting principle without losing sight of the above objects, as their Royal Charter of Incorporation (copy of which is herewith sent, marked No. 3) by the 23rd section *limits* the rate of dividend to 5*l.* per cent., and the surplus to be applied after creating a guarantee fund not exceeding 15,000*l.* in extension of the object.

"To constitute the basis of a claim to reward the facts "adduced must have been the consequence of a free and "spontaneous initiative, and not of legislative enactments."

This association was formed on the 15th September 1841, at a meeting held at the offices of the writer, as shown by copy of the resolutions then passed, No. 5, herewith left, and which meeting was called together by the writer as the result of conversation between himself and two relatives on the best mode of insuring the extensive erection of improved dwellings for the labouring classes, and which they felt could not be done without "full compensation to the capitalist," as expressed in one of the resolutions passed at the first meeting. The object in obtaining the Royal Charter some years afterwards was to incorporate the body of gentlemen who had then put their names down for shares to the extent of near 20,000*l.*, and to limit their liability.

It is therefore submitted that this association has not only "introduced improvements where antagonism and suffering

Name.	
METROPOLITAN—*cont.*	"previously existed," but also "a state of harmony and well-"being consequent on improved health." The 22 annual reports herewith sent are evidence "of long "continuance of co-operation, permanence of satisfactory "relations," and "sustained and progressive prosperity," notwithstanding the difficulties which this association had to encounter as being the first to introduce and establish the important principle of the profitable employment of capital in improving the dwellings of the working classes. The system of collecting the weekly rents payable in advance by 883 tenants, and the checks adopted to avoid mistakes, is a material feature that herewith is sent No. 15 form of a weekly sheet which is brought in every Friday by the resident collector, with the name of the tenant filled in opposite his No., and also any amount he may have paid or be in arrear. The collector also keeps an account with each tenant of the money he paysor may be in arrear in the book No. 16 herewith sent, which at once shows where any omission in payment occurred. A receipt is given for every payment made, and each week the collector cuts out of a book of blank forms of receipt similar to the one sent No. 17, as many receipts as he has tenants in his building, and fills up each receipt with the name and No. of the tenant, and up to what time his rent is paid. When the collector brings in his sheet and books and money on the Friday, the number of tenants he has, and the number of receipts he should consequently have cut out, are counted, and he has to account for the money for each receipt, or produce the receipt itself to show that it has yet to be accounted for in cash. It will be observed, that each receipt is numbered consecutively in red ink, and the same number is placed on the counterfoil that a number cut out in any other part of the book will not correspond with the counterfoil it may be placed against. The original minute books and audited balance sheets will be produced if necessary. CHARLES GATLIFF, Secretary, 26th Jan. 1867. 19, Coleman Street, London.
VANCE (DUBLIN) -	Views, &c., referred to in the Appendix, of— No. 1. Model lodging houses for single men (furnished), 64 and 65, Capel Street, Dublin. No. 2. Model dwellings for families, Lower Bridge Street, Dublin. No. 3. Bishop Street and Kevin Street Model dwellings for families.

64. Names of the persons, with their offices, by whom the affairs of the society are managed?

HASTINGS - -	A Committee consisting of the Treasurer and the Secretary, and seven other residents.
LABOURING CLASSES	The Right Hon. The Earl of Shaftesbury, K.G., President; A General Committee; The Right Hon. the Earl of Leven and Melville, Treasurer.
LEEDS PERMANENT BUILDING SOCIETY.	John Bell, Manager. John M. Sims, Secretary, Park Row, Leeds, and a Managing Committee.
LONDON - -	A Board consisting of the Secretary and six other directors.

Name.	
METROPOLITAN -	A board of directors, consisting of not more than 20 and not less than six, and a secretary, under the terms of the Royal Charter of Incorporation.

68. What special means are adopted for securing the object for which the establishment was formed?

COLUMBIA SQUARE -	*See reply No.* 69.
HALIFAX - -	To induce investors and depositors, a higher rate of interest is given than that procurable at savings banks. To induce borrowers, easy terms of repayment of both principal and interest are afforded. To insure security, advances upon property are only made when the title is undoubted, the amount of the advance being limited to three-fourths of surveyors' valuation. Care also is taken that in default of the regular monthly instalments being paid, the property is of a character readily saleable.
HASTINGS - -	Partly the erection of new houses of a superior character, but chiefly the renovation and improvement of existing dwellings; and in both cases a careful watching over their sanitary condition.
LABOURING CLASSES	The erection of new, and the adaptation of old buildings, as improved dwellings for the labouring classes.
LEEDS PERMANENT BUILDING SOCIETY.	By payment of regular and soundly calculated subscriptions, which when accumulated are advanced to members on security of real property under conditions of rules, which see.
LONDON - -	Partly the erection of new houses of a superior character, but chiefly the renovation and improvement of existing dwellings; and in both cases a careful watching over their sanitary condition.
MARYLEBONE -	The model buildings are well built and supplied with sanitary conveniences. Old delapidated property thoroughly cleansed, renovated, and supplied equally with sanitary conveniences. The superintendents and workmen (under the supervision of board and secretary) notice and remedy sanitary defects as they occur, either in the buildings or in the habits of the occupants. Tenants being drunken, quarrelsome, and infringing sanitary rules are expostulated with, and if incorrigible, after repeated expostulations, receive notice to quit; the latter alternative is rare, and localities where fighting and lawlessness formerly prevailed, setting at defiance police authorities, are now comparatively quiet and orderly. Gray's Buildings, Duke Street, Manchester Square, occupied by 159 Irish tenants, costermongers, bricklayers' labourers, milkwomen, &c., is an instance of this, although occupied by the same class as have resided there for many years.

69. Give a short sketch, with statistics,* of its progress, development, and present prosperity?

COLUMBIA SQUARE -	In the year 1853–54 I built a block of buildings containing 54 dwellings of two rooms each for married soldiers of the brigade of guards. The funds were raised by debentures purchased by the officers of the brigade and their friends. Miss

* Copies of the earliest and latest reports (including the balance sheets) should be filed with this form.

Name.

COLUMBIA SQUARE —*cont.*

Burdett Coutts became a proprietor and took great interest in the success of the undertaking, which was the first of its kind. When the building was finished so many applications for residence were made by the poorer classes of civilians in its neighbourhood, who were unaware that it was erected for the sole benefit of the soldier, that I endeavoured to induce an existing association for improving the dwellings of the poor, to build a similar group of buildings for the poorest of the industrious classes, and to let them at equally low rents. My endeavour being unsuccessful, Miss Burdett Coutts requested me to prepare plans with rather more accommodation than that which was afforded by the guards lodging house (now called the Victoria Lodging House, the late Prince Consort having taken considerable interest in its welfare). These plans having been approved, the first or east wing of Columbia Square was begun in the spring of 1858. The general arrangement of the building closely resembles that of the Victoria Lodging House, and as it has been highly approved by all the leading sanitary authorities who have visited it, no material departure from this arrangement has been made in any buildings of the same class which I have since erected. There are four stories of dwellings and a fifth or attic story, which is occupied by wash houses, club or reading rooms, and large areas for drying clothes, and for the exercise of children in wet weather. The dwellings are situated on each side of a corridor which is lighted and ventilated by windows at each end, and by a wide stone staircase in the centre of its length. This staircase has one of its sides unenclosed except by iron railing, so that the corridor is constantly supplied with fresh air, an advantage of considerable importance as the poorer classes endeavour to exclude with jealous care every breath of fresh air surrounding their habitation, and were not their dwellings supplied with a fresh current from the corridor whenever their doors were opened, the sanitary condition in large blocks of associated homes would not be so highly satisfactory as the registrar's returns prove it to be. The dwellings generally consist of two rooms, a living room 12 ft. × 10 ft., and a bed room 12 ft. × 8 ft. 6 ins., of these two roomed dwellings there are 28. There are 19 dwellings with two bed rooms of the same dimensions, and there are five dwellings of one room, 12 ft. × 10 fc. 6 ins., intended for adult members of families occupying the first specified dwellings. Each living room is provided with two cupboards, the upper one arranged with shelves, &c., the lower adapted to receive coal and fuel. The fireplace is furnished with stove for cooking, oven, boiler, hot plate, and tryvet. There are four waterclosets, two lavatories, and two baths on each floor. In the centre of each corridor and adjoining the staircase is a dust hopper or flap connected with a shaft communicating with a vault in the lowermost part of the building which is the only portion basemented. Access to this vault for the removal of the dust is provided from the exterior, so that no effluvia or annoyance arising therefrom may enter the building. The dust shaft is carried up above the roof for the purpose of ventilation. The staircase and corridors are of stone, the external walls are faced with picked stock bricks of the ordinary description, and are 14 ins. thick, those of the internal walls which have fireplaces are 9 ins. thick, the partition walls between the living rooms and bed rooms are 4½ ins. thick. All the internal walls are worked with as fair a face as common brickwork will allow, and are coloured with two coats of well sized distemper color of a warm cream tint which gives them a

Name.

COLUMBIA SQUARE —*cont.*

clean and comfortable appearance. The ceiling of the dwellings are the only portions of the building which are plastered.

The foregoing brief outline may serve to explain the description of building which it was considered desirable to provide for a class of tenant hitherto unaccustomed to the ordinary decencies of domestic life, a class which required to be tempted to try something rather better, but not *too much* better than anything which habit had rendered acceptable and pleasant, and which they would reluctantly forsake. As Miss Burdett Coutts felt that she was the first to try the experiment of providing homes for the very poor, and possessed no previous data to guide her, it became necessary to fix the rents of the dwellings at a rate which should not exceed that hitherto chargeable for very inferior accommodation; for this reason 24 of the two-roomed dwellings were offered at 3*s.* 6*d.* weekly rental; 4 two-roomed dwellings, which were rather smaller, were offered at 3*s.* weekly rental; 19 three-roomed dwellings were offered at 4*s.* weekly rental, being an increase of only 6*d.*; and the 5 single-roomed dwellings were offered at 2*s.* weekly rental. These rents include all charges to the tenant. By degrees the building became occupied. More applicants applied for residence than could be accommodated, and as Miss Coutts was entirely satisfied with her success, the whole square was ultimately completed in May 1862. The buildings are always full, and tenants regard it as a privilege to be admitted, and although there are between 700 and 800 residents, since the completion of the first building, there has not been a single case of a tenant becoming amenable to the law. The only rules and regulations to be observed by the tenants are given on the opposite page. The management of the building is conducted as follows: a resident superintendent enquires into the character and antecedents of all persons applying for residence, he collects the rents, disburses all small payments not paid by cheque, and pays the balance into the bank every week. He keeps account of all sums received and paid by him, and submits the books to me for periodical examination. He refers all questions of importance to me, and is in all respects under my direction. Under him are two porters, who attend to the general cleanliness and order of the building, who light and put out the lamps, &c. The pecuniary return upon the cost of the building does not exceed 2½ per cent. as the statement on the opposite page will show. It is a statement of the year concluded on the 9th of October 1866, and is copied from my own private memoranda. The smaliness of the return is attributable to the following causes: 1. The external design of the buildings, although very simple, is more ornamental than it might have been, the additional embellishment was given at the express desire of Miss Coutts, as she did not wish the buildings to have an eleemosynary appearance. 2. The necessity of complying with the requirements of the Metropolitan Building Act, whereby the cost of construction was considerably increased. 3. The very low rents demanded from the tenants, and the very high rates of the parish in which the buildings are situated, owing to its extreme poverty. 4. The loss of revenue entailed by giving up the whole or the fifth or attic story to the use of the tenants as laundries, club rooms, and play grounds for children. This uppermost story is, however, one of the greatest, if not the greatest, attraction which the buildings possess. The laundries are in constant use, and the drying areas afford playgrounds for the children while the mothers are washing. The club rooms did not prove so attractive as was supposed, although

Name.

COLUMBIA SQUARE —*cont.*

they were lighted and warmed without cost to the tenants, and furnished with books, tables, &c., to render them inviting, the men preferred the privacy of their own fireside, and with two exceptions these rooms have been converted into dwellings.

Miss Burdett Coutts deserves all praise for attempting a most difficult experiment, an experiment which none dared to make before her. Her success has been so complete that several buildings of the same class have been erected from my designs and under my direction, all of which have fulfilled their requirements, and make a better pecuniary return upon their cost. These are referred to in an accompanying communication.

HALIFAX - - -

Below is given a summary of business done in share, deposit, and advance departments during a period of 14 years. This document will give the best and clearest information regarding the progress, development, and present prosperity of the society.

During this period, 7,318 members or shareholders were enrolled; 6,358 being investing members, 960 being borrowing members. 3,385 depositors have also invested money with the society; making a total of 10,703 persons who have become associated with it.

The following particulars may also be given:—

6,358 investing members had invested or saved - - - (This amount includes interest and profit paid, and also payments in advance).	£198,111 16 2
3,385 depositors had lent or invested -	243,144 4 11
960 borrowers had paid in repayments and interest in respect of advances - - -	250,270 9 7
Other receipts in respect of temporary loans, bank interest, management, insurance, &c. - -	19,135 2 4
Total in 14 years -	£710,661 13 0

960 borrowers had received advances amounting to £365,866 6 6.

Of these sums:

4,395 investors had withdrawn; principal, £114,086 16; interest, £14,311 6 1; profit, £2,218 10 1.

1,882 depositors had withdrawn; principal, £155,036 10 2; interest, £20,652 0 6.

437 borrowers had repaid in principal and interest, £180,713 15 5.

Leaving:

1,963 investors, who had with the society in principal and interest -	£67,495 4 0
1,503 depositors, who had with the society in principal and interest -	88,107 14 9
Total - -	£155,602 18 9
523 borrowers who were owing to the society - - -	£167,654 11 1

Name.

HALIFAX—*cont.*

SUMMARY OF BUSINESS DONE.

SHARE DEPARTMENT.

Number of Shares taken up, Subscriptions received, and Amounts withdrawn, including Interest and Profit, in each of the following years.

The Number of Members entered, 7,318.

Shares taken up.	Subscriptions received.	WITHDRAWALS.		
		Principal.	Interests on Withdrawals and Pre-payments.	Profit.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1st Year - 1,052⅘	4,466 17 0	103 8 6	7 5 8	
2nd „ - 833⅗	8,999 13 6	2,150 9 0	69 8 4	
3rd „ - 736⅖	13,346 16 7	2,680 10 6	210 3 1	
4th „ - 921⅖	19,070 4 6	4,215 19 0	343 15 7	69 17
5th „ - 709⅖	20,971 11 7	5,722 11 0	557 0 5	50 13
6th „ - 844⅕	24,652 14 0	5,744 15 6	573 11 11	37 13
7th „ - 1,032⅕	26,427 7 5	6,236 10 4	790 2 11	150 13
8th „ - 1,145	29,430 7 8	8,217 8 6	922 8 6	114 5
9th „ - 1,175⅘	31,871 0 0	9,712 17 6	1,018 2 8	105 8
10th „ - 1,241	31,471 1 8	7,679 10 0	929 13 4	196 3 11
11th „ - 2,378⅕	43,150 18 6	9,911 12 9	1,192 15 9	259 5 3
12th „ - 1,434⅖	47,350 16 9	16,471 16 5	1,951 17 1	168 11 1
13th „ - 1,786⅗	49,238 3 0	13,842 14 0	1,632 0 5	515 19 1
14th „ - 1,972⅖	52,323 8 6	21,396 13 0	4,113 0 5	549 19 3
17,264⅖	402,771 0 8	114,086 16 0	14,311 6 1	2,218 10 1

DEPOSIT DEPARTMENT.

Deposits received and Amounts withdrawn with Interest.

The Number of Depositors enrolled, 3,385.

	£ s. d.		£ s. d.		£ s. d.
1st Year, Recd.	6,567 19 0	Withdwn.	315 2 0	Interest	120 11 0
2nd „ „	9,049 2 2	„	1,126 6 6	„	498 11 5
3rd „ „	10,616 11 9	„	2,648 15 2	„	566 11 4
4th „ „	15,156 6 9	„	5,546 5 10	„	1,009 14 5
5th „ „	12,704 8 2	„	6,687 14 10	„	1,356 18 4
6th „ „	17,260 7 8	„	17,122 5 1	„	1,580 2 3
7th „ „	14,267 17 3	„	12,306 13 9	„	1,122 2 10
8th „ „	11,661 19 6	„	13,138 9 6	„	1,145 19 1
9th „ „	18,338 11 5	„	12,806 6 11	„	1,310 12 0
10th „ „	26,749 7 8	„	13,102 7 4	„	2,076 6 7
11th „ „	19,536 12 7	„	16,043 13 8	„	1,978 16 9
12th „ „	22,963 18 2	„	21,302 12 5	„	2,193 19 2
13th „ „	26,694 13 6	„	15,787 9 1	„	2,626 7 9
14th „ „	31,576 9 4	„	17,102 8 1	„	3,065 7 7
	243,144 4 11		155,036 10 2		20,652 0 6

ADVANCE DEPARTMENT.

No Advances whatever are made except on the Security of Freehold, Copyhold, or Leasehold Property.

AMOUNTS ADVANCED.

	£ s. d.		£ s. d.
1st Year	- 9,124 9 4	10th Year	- 32,675 4 0
2nd „	- 18,126 18 0	11th „	- 43,679 12 0
3rd „	- 15,398 12 8	12th „	- 24,109 4 0
4th „	- 19,457 18 2	13th „	- 45,839 4 0
5th „	- 19,251 13 10	14th „	- 45,454 14 6
6th „	- 18,523 0 0		
7th „	- 22,541 0 0		365,866 6 6
8th „	- 17,670 0 0		
9th „	- 34,014 16 0		

Names.

HALIFAX—*cont.*

The following will shew the working of the Society:—

ANNUAL STATEMENT of One Share in both Investing and Borrowing Departments.

INVESTOR.						BORROWER.											
Amount paid at the end of each Year on one Share.			Interest due thereon.				Amount owing at the end of each Year.			Principal paid off at the end of each Year.			Interest paid at the end of each Year.		
£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.	£	s.	d.
0	0	0	0	0	0		60	0	0	—			—		
1st Year - 6	10	0	0	2	9	1st Year -	56	13	4	3	6	8	3	3	4
2nd „ - 13	0	0	0	11	4	2nd „ -	53	3	0	3	10	4	2	19	8
3rd „ - 19	10	0	1	6	5	3rd „ -	49	8	9	3	14	3	2	15	9
4th „ - 26	0	0	2	7	11	4th „ -	45	10	4	3	18	5	2	11	7
5th „ - 32	10	0	3	16	4	5th „ -	41	7	8	4	2	8	2	7	4
6th „ - 39	0	0	5	12	0	6th „ -	37	0	3	4	7	5	2	2	7
7th „ - 45	10	0	7	15	4	7th „ -	32	8	2	4	12	1	1	17	11
8th „ - 52	0	0	10	6	9	8th „ -	27	10	8	4	17	6	1	12	6
9th „ - 58	10	0	13	6	4	9th „ -	22	8	0	5	2	8	1	7	4
10th „ - 65	0	0	16	14	8	10th „ -	16	19	9	5	8	3	1	1	9
11th „ - 71	10	0	20	12	3	11th „ -	11	5	2	5	14	7	0	15	5
12th „ - 78	0	0	24	19	5	12th „ -	5	4	6	6	0	8	0	9	4
13th „ - 84	10	0	29	16	5	And 11 mons.		—		5	4	6	0	2	6
And 7 mons. 88	0	0	32	13	0					60	0	0	23	7	0

INVESTOR.

The above Statement shows that if a person continues to pay 10*s.* per month on one Share for the full period of 13 years and 7 months, the following will be the result:—

Subscriptions paid - - - -	£88	0 0
Interest allowed - - -	32	13 0
Profits (supposed) - - -	2	10 0
	123	3 0
Less Office Expenses - - -	1	15 0
	£121	8 0

BORROWER.

The following will also be the result with respect to a Share borrowed:—

Amount advanced - - - -		£60	0 0
Interest paid thereon - -	23 7 0		
Less supposed Profits - -	2 10 0		
		20	17 0
		£80	17 0

The above Statement is worthy of consideration by Borrowers, as it shows that important advantages are to be derived:—

1st.—Interest is reduced as the Principal is repaid.

2nd.—A Participation in the Profits realized.

A Borrower by these means obtains an advance at the lowest possible rate of Interest, and which will bear comparison with any similar Institution.

The Society is "Mutual." There is no proprietary. The profits realized are therefore divided as shown in the following statement:—

Borrowers and Investors share equally in the Profits made by the Society.

Names.

HALIFAX—*cont.*

PROFITS realized, and Division thereof.

Years.	Total Profits.	Carried to Reserve Fund.	Bonus given to Members, Investors, and Borrowers.
	£ s. d.	£ s. d.	£ s. d.
3	802 8 4	442 8 4	360 0 0
6	1,716 13 5	996 13 5	720 0 0
9	2,257 0 0	1,177 0 0	1,080 0 0
12	1,921 4 6	383 18 3	1,537 6 3
	6,697 6 3	3,000 0 0	3,697 6 3

After 14 years' working of the Society, the Directors were enabled to publish the following statement:—

The result at the end of 13 years is that the Directors have been able not only to meet all the obligations due to Investors and Depositors, but also to accumulate profits to the extent of 6,697*l.* 6*s.* 3*d.* Of this sum, 3,000*l.* has been placed to a RESERVE FUND, and 2,697*l.* 6*s.* 3*d.* given as BONUS to the Members of the Society, whether Investors or Borrowers. And, in addition, it is satisfactory to state that to this time NO LOSS WHATEVER HAS BEEN INCURRED ON ANY MORTGAGE OR INVESTMENT MADE ON BEHALF OF THE SOCIETY.

After 14 years' experience the Directors recommend the Society to the attention of all who are anxious to promote their own individual welfare.

	£	s.	d.
Total receipts of the Society in 14 years - -	696,258	9	6
Withdrawals paid to Members and Depositors -	306,305	2	10
Advances made on Mortgage - - -	365,866	6	6

For the safety of Investments in this Society, there are the following guarantees:—

The business of this Society is confined strictly to receiving money and investing it on good Mortgage Security, and is not extended to speculation of any kind.

The utmost care is exercised in ascertaining the value of Property received as security, and an ample margin left between that and the amount advanced. All property is kept fully insured, and every precaution taken against loss. The unusual advantages offered to Borrowers enable the Society to obtain the best securities, and the amount owing being gradually reduced, the risk on each advance constantly diminishes.

HASTINGS - - (Extract from the "Handbook for Hastings and St. Leonards," 1864. Append. p. xxxix.)

"This society, though not properly a charity, may well come under the description of a Benevolent Institution. It originated early in 1857 with a few gentlemen, who, being for the most part personally acquainted with the defective state of the house accommodation for the poor in Hastings, notwithstanding some considerable amendments effected by the Local Board of Health, resolved on an attempt to improve the moral and sanitary condition of some of the worst parts of the town. For this purpose it was resolved to proceed on a somewhat novel principle. The society was set on foot with a subscribed capital of 850*l.* This sum was judiciously expended in the purchase and repair of a court adjoining All Saints Street. Another and larger

Names.	
Hastings—*cont.*	block of houses near St. Clement's Church was bought towards the end of the same year, and thenceforth capital was subscribed almost as fast as means of eligible investment offered, until in 1862 it reached a total amount of 17,000*l.* [In 1861 the society was considered to be sufficiently established to warrant its being registered as a Limited Company under the "Joint Stock Company's Acts," 1856 and 1857.] "In consequence of the increasing demand for houses in Hastings, the opportunities of investment had become less frequent and at less profitable rates. Three blocks of new cottages were erected by the society, situated chiefly in Crown Lane, leading to the footpath up the East Cliff. They contain five rooms each, fitted with every modern improvement and convenience. The old houses purchased by the society have also, besides attention to better drainage and ventilation, been liberally furnished with boilers, cottage ranges, water supply, and improved out-door conveniences. The society possesses in all 155 houses, occupied in about 183 separate tenements. The tenants hold under agreements, which strictly provide against overcrowding, and preserve due regard to cleanliness, and are immediately terminable in case of personal misconduct. In some quarters the beneficial influence of the society has become very perceptible. Courts in the old town, which were formerly dirty, unhealthy, and disreputable, have become healthy, clean, and orderly. "The society has a Benevolent Fund formed by the donations of members and other persons, from which aid is given to sick and aged tenants, and loans are advanced in case of casual emergencies. * * * "The unusual success which has attended the operations of this society has attracted much attention both in this country and abroad; and a similar society called, the "London Labourers'-Dwellings Society," has been established through the agency of a few of the same shareholders, and, in a larger sphere of action, promises still more prosperous results."
Labouring Classes	In 1844, the society erected its first set of model dwellings. In 1847, two additional houses were opened. In 1849, a fourth house was opened. In 1850, a fifth house. In 1851, a sixth and a public washhouse. In 1855, 13 houses were renovated. In 1856, 11 „ „ In 1857, 19 „ „ The total outlay has been 37,485*l.* The net rents from the houses for the years 1863-4-5 have been 1,775*l.* 3*s.* 4*d.*, 1,727*l.* 19*s.* 7*d.*, and 1,601*l.* 5*s.* 10*d.*, being an average of 4½ per cent. on the cost.
Leeds Permanent Building Society.	The great success of the Society will be seen from the following statement of facts:— The weekly income during the seventeenth year has been 3,576*l.* 8*s.* 5*d.*, making a total of 185,974*l.* 4*s.* 3*d.* Total income from all sources since commencement 1,663,503*l.* 6*s.* 1*d.* The number of new members entered during the year has been 2,257, taking up 5,253 shares. The total number of shares entered have been 59,397, the present number of shares in the society is 17,577, held by 7,047 memqers; 2,339 members have borrowed upon their estates, 826,112*l.* 10*s.* 6*d.*

Name.

LEEDS PERMANENT BUILDING SOCIETY —*cont.*

PROGRESS OF THE SOCIETY FROM ITS COMMENCEMENT.

Year.	Members entered in each Year.	Shares entered.	RECEIPTS, &c. Contributions. £ s. d.	Loans. £ s. d.	Total from all Sources. £ s. d.	PAYMENTS, &c. Advances. Shares.	Amount. £ s. d.	Withdrawals. Shares.	Amount. £ s. d.	Loans. £ s. d.	Total for all Purposes. £ s. d.
1	1099	1980	12,319 17 11	3,591 2 10	16,735 17 4	2202	14,286 10 4	144	600 2 0	557 3 4	16,088 2 0
2	1110	2358	25,165 16 3	4,485 3 1	31,019 2 6	4321	27,053 7 2	4714	3,886 3 0	1,324 10 0	33,633 3 6
3	1114	2689	38,481 15 9	5,554 15 0	45,593 10 3	4754	31,021 0 10	1139	11,402 9 6	1,790 0 10	45,906 10 9
4	1349	2710	55,745 16 7	1,389 5 1	58,101 0 1	6457	32,702 7 5	1180	14,728 17 1	3,415 13 11	53,329 10 2
5	1289	3015	58,049 4 9	333 6 8	59,610 16 7	4224	30,327 12 6	2266	25,585 2 8	3,360 17 11	64,173 19 6
6	1041	2366	58,153 6 7	17,929 8 0	77,351 11 9	6493	37,252 16 10	2205	31,632 18 11	3,659 11 6	76,464 1 6
7	1008	2324	60,644 3 1	12,735 18 8	75,093 2 5	5671	36,813 19 10	1934	27,743 16 0	5,776 12 11	74,269 6 5
8	1310	2976	67,320 0 8	19,041 11 0	88,098 14 8	7577	47,267 0 11	1685	25,479 0 0	9,416 15 6	88,988 18 4
9	1699	3291	72,290 4 6	18,927 17 10	92,519 7 8	7458	47,407 4 3	2051	29,541 4 10	10,682 0 3	93,656 6 1
10	1294	2571	77,399 3 7	13,287 12 5	91,911 17 10	5795	35,030 5 11	2225	30,970 16 6	18,790 4 10	86,475 0 4
11	1703	3652	86,351 14 8	260 6 11	88,192 2 4	5744	36,703 17 6	1856	28,670 1 1	17,187 10 10	89,804 14 9
12	2120	4265	96,512 16 10	663 12 11	99,082 18 6	7694	50,851 11 3	2364	35,400 6 4	10,613 8 3	104,379 11 3
13	1911	4361	102,963 14 2	33,873 5 0	138,907 14 4	11215	71,679 11 1	3120	48,327 12 6	9,718 6 8	139,536 11 1
14	1957	4475	112,874 15 5	52,360 18 10	167,082 18 9	11805	68,693 5 11	2995	56,917 14 8	18,684 9 3	158,228 11 7
15	2152	5724	131,759 1 8	24,993 14 3	158,757 15 1	13855	89,219 15 1	3024	50,251 9 10	19,771 3 9	170,805 16 9
16	2412	5690	150,567 3 7	35,883 16 0	188,449 12 3	14105	92,653 14 1	3318	54,022 8 7	25,955 2 3	184,629 9 11
17	2258	5257	151,292 2 0	32,775 2 7	185,974 4 3	13135	76,248 9 7	3815	65,512 3 3	38,013 10 5	188,706 1 0
	26826	59397	1,351,890 8 0	284,036 17 1	1,663,503 6 1	131543	826,112 10 6	35794	540,176 6 9	188,349 2 5	1,669,145 14 11

For mode of working, *see* Rule 1. and Pamphlets 4 and 5 herewith (*see* over). *See also* Homes for the Working Classes, by James Hole. London: Longman, Green, & Co. 1866.

Name.

LONDON - -

The London Labourers'-Dwellings Society originated with some of the shareholders of the "Hastings Cottage-Improvement Society" who lived in London, and who were so well satisfied with the management and operations of that society that they were anxious to try the same experiment in the metropolis. Accordingly the Society was started at first as a sort of private partnership, without any formal constitution or legal status, and with a capital of 3,400*l.*, with which the members purchased and put into good repair 26 houses in St. George's-in-the-East, near the London Docks. The first attempt was so successful that fresh capital was raised from time to time, and fresh purchases made, until at present the capital amounts to 27,100*l.*, the Reserve Fund to nearly 4,000*l.*, and the number of tenements belonging to the society to about 180. In 1863 the society was considered to be sufficiently established to warrant its being registered as a limited company under the "Companies Act, 1862."

MARYLEBONE -

	Accommodation provided for	The gross receipts per ann. being
		£
1855, March	30 Families	
1856, March	192 „	700
1857, March	192 „	700
1858, March	210 „	1,274
1859, March	221 „	1,299
1860, March	242 „	1,513
1861, March	255 „	1,588
1862, March	255 „	1,701
1863, March	262 „	1,654
1864, March	262 „	1,794
1865, March	299 „	1,965
1866, March	302 „	2,080
1867, March	418 „ (estimated)	3,800

Dividends paid on ordinary shares.

March	1857	£2	10	0	per cent.	March	1865	£2	0 0 per cent.
„	1862	2	0	0	„	„	1866	2	0 0 „
„	1863	1	0	0	„	„	1867	3	10 0 „
„	1864	1	0	0	„				

70. In what respects does the society fulfil the conditions on which a claim can be submitted on its behalf to the International Jury, in accordance with the principles laid down at their first meeting?

COLUMBIA SQUARE -

Had Miss Coutts desired to render her undertaking a merely remunerative one in a financial point of view, she could easily have let the whole of the dwellings at a considerably advanced rental, inasmuch as she could have received a very superior class of tenant. Her object in erecting Columbia Square was to improve the domestic condition of the wretchedly poor around her. In this she has succeeded, not merely by housing 189 families in her own buildings, but by her example, inducing proprietors of cottages in the neighbourhood to improve their own wretched property. The Venerable Archdeacon Sinclair, Archdeacon of Middlesex, has repeatedly assured me that the benefit of Miss Coutts' influence and example in the neighbourhood of Bethnal Green is quite marvellous.

Name.	
HALIFAX - -	Because, while the objects of the society are benevolent, its operations are not only self-supporting, but also profitable to the shareholders, as is seen by the figures adduced. Moreover, the progress shown is increasing, and promises to be greater with the growth of the population in this manufacturing district. It may also be added, that the organization of the society was entirely due to the efforts of a few individuals, who have, from the beginning, discharged the duties of management without salary, fee, or other pecuniary recompense; they only had recourse to the law to get the rules certified by the Government officer appointed for such purpose. At the meetings of the general body of shareholders held every year, the proceedings have been marked by the utmost good feeling and confidence, the resolutions submitted by the directors having in every instance been passed without a dissentient voice. It will thus be seen that harmony and confidence have been maintained between the directors and the shareholders. By means of this society several hundreds of working men now live in their own houses; many hundreds more have saved considerable sums which would otherwise, in most cases, have been frittered away; and hundreds of persons have been assisted in extending or improving their trade premises without having the dead weight of a mortgage left hanging upon them, after having paid large sums in interest. The union of the gentlemen of position who form the trustees and directors, with the great body of the shareholders, has tended to generate good feeling and mutual trustfulness throughout the town and neighbourhood. These considerations, it is respectfully submitted, constitute a fair ground of answer to the question No. 70 in the appendix.
HASTINGS - -	The answer to this question is given in the letter sent herewith.
LABOURING CLASSES	By having provided accommodation for 353 families, 128 single women, and 280 single men, with an average population during the last four years of 1,607. By having reduced the death rate in the society's houses one-third, compared with London generally. By checking crime and intemperance, and generally by promoting the social and moral welfare of the tenants. By supplying plans and working drawings of agricultural labourer's cottages to landlords and others interested in improving the condition of the agricultural labourer.
LEEDS PERMANENT BUILDING SOCIETY.	On account of being voluntary or spontaneous; praiseworthy; prosperous; self-developing; exceedingly harmonious; and highly satisfactory, in enabling numbers to provide and obtain better houses for themselves and families than previously practicable; and in thus advancing provident habits; the accumulation of capital; extending the possession of property to the benefit of society; and the security of order, morality, and public weal. (*See* Notes.)
LONDON - -	The answer to this question is given in the letter sent herewith.
MARYLEBONE -	A free and spontaneous initiative and not legislative enactments. Compatible with sustained and progressive prosperity. The introduction of improvements where antagonism and suffering previously existed.

Name.

71. What are the qualifications for admission to the society, or for employment by it?

HASTINGS - - For admission to the society's houses it is only required that the applicants shall be of good character, (so far as can be ascertained,) and shall not carry on any business injurious or annoying to their neighbours.

LEEDS PERMANENT BUILDING SOCIETY. Conformance to rule. We have no other conditions. It is composed of all sects and parties, both in religion and politics, who have worked together harmoniously.

LONDON - - For admission to the society's houses it is only required that the applicants shall be of good character, (so far as can be ascertained,) and shall not carry on any business injurious or annoying to their neighbours.

---

72. Of how many members does the society consist?

HASTINGS - - The number of shareholders is 74.

LEEDS PERMANENT BUILDING SOCIETY. Present number of members 7,047, composed of 1,258 borrowers on mortgage, and 5,789 subscribers. Total members from commencement 29,177. Total No. of mortgages 2,339, representing probably 1,500,000*l.* worth of property.

LONDON - - The number of shareholders is 46.

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73. How many workmen, or women, are employed by it?

HASTINGS - - The number of the society's dwelling houses is at present 153, and if five persons be reckoned to each family, the total number of persons will be 765.

LEEDS PERMANENT BUILDING SOCIETY. *See Reply* 54.

LONDON - - The number of the society's tenements is at present about 180, and if five persons be reckoned to each family, the total number of persons will be 900.

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74. Have the workmen a share in the profits?

HASTINGS - - The tenants have no share in the management or the profits of the society.

LONDON - - The tenants have no share in the management or the profits of the society.

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79. Has the society been the means of obtaining for its members, or those connected with it, the ownership of a house, or of rural premises?

COLUMBIA SQUARE HALIFAX - - No.

The society has been the means of obtaining for hundreds of its members the ownership of the houses in which they live, or of the trade premises which they occupy.

Two populous suburbs of the town of Halifax, viz., Akroydon and West Hill Park, have been entirely built, so far as the works have extended, through the facilities afforded by this society. Plans of both these districts are annexed.

WEST HILL PARK Model Dwellings. (From the "Halifax Courier," Sept. 19, 1863.)

West Hill Park Model Dwellings.—We have on several occasions drawn our readers' attention to the various stages of progress made by the committee in the conduct of the above scheme, and

Names.

HALIFAX—*cont.*

we are glad to inform them that contracts have now been entered into for erecting the first block of 4th class houses, which is to consist of 32 dwellings. Each house will contain a living-room and scullery on the ground floor, with three lodging-rooms, a larger one for the heads of the family, and two smaller ones for each of the sexes; instead of there being a front street this will be made into garden plots, with a footpath up the centre for entrance to each dwelling. There will be an enclosed yard, convenience, and drying accommodation for each house separately. The houses, including land and drainage, are to cost about 160*l.* each. Names of purchasers have already been given in for the number that are now to be built. We give the following information, to show the process by which many a working man is now obtaining for himself a dwelling he can call his own, which he is enabled to do through the aid afforded by a building society, and the saving of the rent at present paid to a landlord. We have said before that each dwelling is to cost 160*l.*, which has to be paid for on the completion of the building, when a complete conveyance of the property will be given to each purchaser. The following is the process:—

	£	s.	d.
The purchaser finds - - - -	40	0	0
Building Society - - - -	120	0	0
	160	0	0
For the advance of 120*l.*, subscriptions have to be paid at the rate of 5*s.* per week or 13*l.* a year, for a period of 12 years, when principal and interest are paid. This makes -	156	0	0
During this time there has been the saving of rent, say 8*l.* 8*s.* a year, which has assisted to make the above payments, and must therefore be deducted - - -	100	16	0
	55	4	0
Amount furnished by purchaser - -	40	0	0
Interest at 5 per cent. thereon - -	24	0	0
Amount of cost of dwelling - -	119	4	0

We think the above will be sufficient to stir up the active energies of many a working man to the very great and important work of becoming owner of his own dwelling. And we are sure in the statement we are about to make we shall be corroborated by the experience of many who have already got into that proud position by means of the "Go-a-head" Building Society, and many other similar undertakings we have had completed in the town, that the benefits derived have not been confined simply to obtaining what was first contemplated, but there has sprung out of it many other great advantages, which are best described in the aphorism, "Teach a man to rely upon his own efforts, to be frugal and industrious, and you have furnished him with a productive capital which no man can wrest from him," and again he will have found that "economy is of itself a great revenue."

Since the above appeared in the Halifax Courier, under date September 19, 1863, there have been erected on the West Hill Park site other two blocks, consisting of 30 dwellings. Each house contains parlour, living room, scullery, and passage on ground floor, with three lodging rooms over. The same arrangement has been carried out with respect to front street and garden plots as in the fourth-class houses. The cost to purchasers, including land and drainage, is 260*l.* The whole have been disposed of to separate owners.

Contracts have now been entered into for the building of 15 other dwellings similar to the last named. These are expected to be completed early in the month of June.

Names.	
Hastings - -	The tenants never become the owners of the houses in which they live.
Leeds Permanent Building Society.	Yes, in innumerable instances; that is its very object. 2,400 members have thus acquired real property. The manager conjectures that this number would represent at least 10,000 houses, &c., of which two-thirds will be newly erected by the assistance of the society.
London - -	The tenants never become the owners of the houses in which they live.

Copies of the signatures of magistrates and other persons who certify that they are well informed of the management of the establishment against which their names stand, and that they believe the foregoing statements to be true?

Columbia Square	Not signed.
Halifax - -	Thomas Shaw, mayor of Halifax; Samuel Waterhouse, J.P., M.P. for Pontefract; William Henry Rawson, J.P.
Hastings - -	Not signed.
Industrial Dwellings.	Thomas Gabriel, Lord Mayor of London; Russell Gurney, recorder of London; William Rogers, Rector of St. Botolph, Bishopsgate, City of London.
Labouring Classes	E. Bayley, B.D., rector of Bloomsbury; Henry Pownall, J.P., chairman of the magistrates of the county of Middlesex and city and liberty of Westminster.
Leeds Permanent Building Society.	Henry Oxley, J.P. for Leeds; Edward Irwin, J.P. for Leeds.
London - -	Not signed.
Marylebone -	S. H. Harlowe, Vice-Chairman; Charles R. Stokes, Secretary Corporate seal affixed.
Metropolitan -	James Clarke Lawrence, alderman of London and justice of the peace of Middlesex; John Grantham, member of Institute of Civil Engineers.
Vance, Thos. -	George Godfrey Place, J.P., county of Dublin; Denis Moylan, J.P. for city of Dublin.

MISS BURDETT COUTTS'S MARKET, BETHNAL GREEN

IN CONNECTION WITH COLUMBIA SQUARE AND OTHER IMPROVEMENTS IN THE NEIGHBOURHOOD.

ELEVATION OF EAST AND WEST WINGS.

Scale of Feet.

10 5 0 10 20 30 40 50 60 70 80 90

H. A. DARBISHIRE F.I.B.A. A

Day & Son Limited Lith. London W.C.

15.

II.—BUILDING SOCIETIES.

APPENDIX GIVING AN ACCOUNT OF THE SUPPLEMENTARY INFORMATION SENT IN WITH EACH RETURN.

Names.

COLUMBIA SQUARE -

1. RULES.

1. The rents will be collected on Mondays from 9 a.m. to 1 p.m. 2. No arrears of rent will be allowed. 3. The passages, baths, closets, &c., must be washed every Saturday, and swept every morning before ten o'clock. This must be done by the tenants in turn. 4. The windows of the rooms must be kept in perfect repair as regards the glass. No clothes, &c. shall be hung out. 5. Children will not be permitted to play on the stairs, or in the passages. 6. No carpets, mats, &c. can be permitted to be beaten or shaken, after 10 o'clock in the morning. 7. Drunken or disorderly tenants will receive immediate notice to quit. 8. The gas will be turned off at 11 p.m. 9. Tenants will pay for all damage not caused by fair wear.

Washhouse Rules.

1. Each tenant will be allowed one washing tray and copper and one day in each week to wash, and no more except in cases of emergency. 2. Each washer to clean her portion of the washhouse, and to remove the clothes lines from the drying room after her clothes are dry. 3. No washer to occupy more than her portion of the drying room. 4. Each washer to pay one penny per hour for every hour she occupies the washhouse beyond the day allotted to her. 5. No washing allowed on Saturdays.

Columbia Square. Receipts and Expenses for the year completed 9th October 1866.

	£	s.	d.		£	s.	d.
Superintendence -	187	4	0	By 9,738 weekly payments -	1824	5	11
Sundries - -	32	10	1				
Rates* - -	343	8	2				
Taxes - -	55	10	0				
Insurance -	42	0	0				
Sweeping Chimnies	27	15	0				
Repairs and painting (exceptional)	228	5	0				
Profit - -	907	13	8				
	1824	5	11		1824	5	11

* The rates in the parish in which Columbia Square is situated are exorbitant.

HALIFAX PERMANENT BENEFIT BUILDING SOCIETY.

1. Rules and regulations.
2. Balance sheets, reports, and prospectus.

Names.

HASTINGS COTTAGE IMPROVEMENT SOCIETY.

1. To the Members of the Special Jury for the New Class of Rewards.

Gentlemen, Hastings, Jan. 26, 1867.

As you invite supplemental information respecting each institution, besides what is given in the answers to your questions, I take the liberty of mentioning some additional particulars relating to the "Hastings Cottage Improvement Society, "Limited."

The origin of the society has been mentioned in the answer to question 69, and therefore I will merely add (in order to prevent misapprehension,) that, though in one sense it is intimately connected with the "London Labourers' Dwelling Society," (inasmuch as it was the indirect cause of its foundation, and both societies have been partly managed by the same individual,) yet they are in a legal and commercial point of view entirely distinct, and the prosperity of each is quite independent of that of the other. As, however, there has been a sort of unity of plan observed in their establishment, constitution, and management, each society is enabled to profit occasionally by the other's experience.

A "Benevolent Fund" has been established in connexion with the Society for the purpose of affording occasional relief to the tenants in time of sickness or distress by donations of food or fuel, (rarely of money,) and by occasional loans. It is believed that the benevolent fund has been useful, not only in giving relief to deserving persons, but also in keeping up a friendly feeling between the tenants and their landlords. It is supported by voluntary contributions from the shareholders and other persons.

In reference to question 59, I may say that at one time it was wished to establish a benefit club in connexion with the Society, but, after mature deliberation, it seemed better not to do this, but rather to recommend the tenants to belong to some one of the clubs already existing in the town.

Some years ago a Penny Savings Bank was established for the exclusive use of the Society's tenants, before any similar institution existed in the town; shortly afterwards, when a well-conducted Penny Savings Bank was established for the whole borough, that in connexion with the Society was given up.

There are no schools in connexion with the Society, but the tenants are recommended to send their children to school, and in special cases the school fees are paid out of the Benevolent Fund. It should be borne in mind, that the tenants do not live in one or more large establishments, but in small separate tenements in different parts of the Town, and are therefore not subjected to the same regulations and management as if they were congregated together in large blocks of buildings.

Some years ago two lending libraries were established, chiefly for the use of the Society's tenants, but they have not hitherto been so much used as was at first expected.

No special arrangement is made to promote temperance among the tenants of the Society, but intemperance and immorality are discouraged, as far as possible, by warning, and, if necessary, removing the offenders from the Society's houses.

In answer to question 70, and in reference to the principles adopted by the jury on Dec. 1 1866, it may be stated:—

1st. That the Society was undoubtedly founded in "the spirit of charity and beneficence," with the hope of improving in the first instance the physical condition of the tenants, and, as a consequence, their moral character also. The commercial element was only added as a means of carrying out this object more completely, because of the impossibility of raising sufficient funds for the purpose in any other way. In proof of this it may be

Names.

HASTINGS COTTAGE IMPROVEMENT SOCIETY—*cont.*

mentioned that one of the original founders had previously taken part in a similar undertaking, which had been conducted solely on a charitable basis, and which had comparatively failed (or at least had not been found to be "compatible with sustained and progressive prosperity,") for that very reason.

2nd. That the establishment of the Society was entirely the "consequence of a free and spontaneous initiative, and not of legislative enactments."

3rd. That, when the origin and progress of the Society is considered, (the capital having increased from 850*l.* to 17,050*l.*,) together with the fact that it has existed for ten years without exhibiting at present any obvious symptoms of decay, it is presumed that it is not only "praiseworthy in itself," but also may be considered to be "compatible with sustained and progressive prosperity."

4th. and lastly, that, as "the state of well-being" has been promoted by the greater physical comfort arising to the tenants from their improved dwellings, and "the state of harmony" by recognizing the principle that it is the positive duty of landlords (within certain limits,) to consider the welfare of their tenants, thus helping to maintain a friendly feeling between the two classes, it is believed that the founders of the Society have established a "durable and prosperous institution, contributing to the propagation of good-feeling and happiness."

I have forwarded a complete set of the Reports and some other papers issued by the Society, which contain abundant statistical details, and the means of verifying most of the statements made in this letter and in the answers to your questions; and am,

Gentlemen,
Your obedient servant,
W. A. GREENHILL, M.D. Oxon.
Secretary to the "Hastings Cottage Improvement Society, Limited."

2. Terms of agreement with tenants, viz.:—

HASTINGS COTTAGE IMPROVEMENT SOCIETY (LIMITED).

Terms of Agreement between the Society and the Tenant

a. The rents to be paid weekly, and in advance; no arrears to be allowed, nor part payment taken.

b. No lodger to be taken into the house without permission.

c. A week's notice to be given on either side to terminate the tenancy.

d. All broken windows to be repaired by the tenant immediately; and, on the termination of his tenancy, the house and all the fixtures to be delivered up uninjured, or repaired at his expense.

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3. Extracts from published notices of the Society.

4. Copy of Fundamental Rules of the Society.

5. Copies of 19 half-yearly Reports of the Society.

6. Copies of seven annual Reports on the Benevolent Fund of the Society.

Names.

IMPROVED INDUSTRIAL DWELLINGS COMPANY.

1. CONDITIONS OF OCCUPATION to be observed by the tenants of the Improved Industrial Dwellings Company, Limited.

1. Rents are always to be kept paid a week in advance. No arrears will be allowed. Each tenant must also deposit the sum of five shillings, which will be held as security for the proper use of the fixtures, and returned at the expiration of the tenancy, subject to any deduction for breakages, damage to premises, loss of keys, &c.

2. Broken windows must be repaired by the tenants, and the chimneys must also be kept properly swept. In cases of neglect the collector may cause the work to be done, and the expenses shall be charged as rent. Nothing larger than the hand or longer than the finger should be thrown down the dust shoots. Tenants are requested to be particularly careful in this respect, as a stoppage in the dust shoot causes serious inconvenience and expense. The washing coppers should be kept perfectly dry, when not in use, to prevent rust.

4. The stairs, passages, and balconies are to be swept daily during the week, and washed on the Saturday by the tenants of each floor in the order of the numbers of the tenements. Children are not to be allowed to loiter or make a noise on the roof, the stairs, or the balconies. The roof is intended to be used in common by all the tenants, and the door leading to it must be kept constantly closed, so as to prevent the access of strangers. Clothes lines must be removed when not in actual use.

4. No tenant will be permitted to underlet any of the rooms in his occupation unless he shall first obtain the permission of the collector in writing.

5. Any person neglecting to observe these rules, misusing, or improperly occupying the buildings, or causing or creating discomfort or inconvenience to his neighbours, will be subject to expulsion at the expiration of forty-eight hours' notice in writing, as well as to the forfeiture of all rents paid, without remedy of any kind on account of such expulsion or otherwise, and the Company are released from all claims from such tenants for damages arising from such expulsion.

By order of the Board,
J. ALDOUS MAYS, Secretary.

I hereby declare that I have read or heard read the above conditions of occupation, and have agreed to be bound by them in accepting the tenancy of the set of rooms numbered in Buildings.

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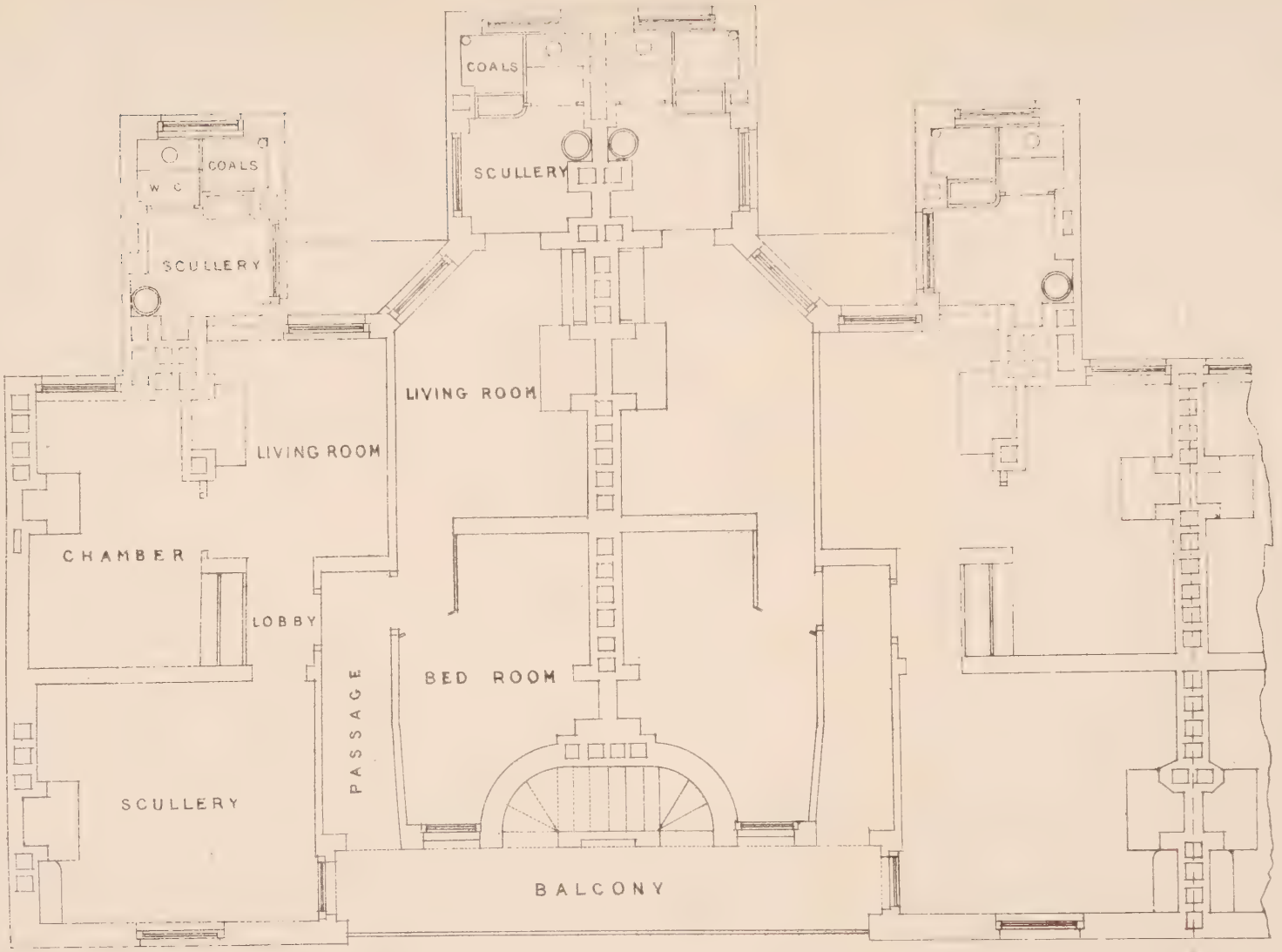
2. PRINTED STATEMENT marked A.

The object of the Improved Industrial Dwellings Company is to prove that an effective solution of the most difficult social problem of the age—the proper housing of the working classes—is within the compass of ordinary commercial enterprise; and that the physical suffering, as well as the moral degradation and antagonism of feeling, which now often exist between the lower and other classes, may be gradually, but surely and safely, removed by the "free and spontaneous" application of means always at the disposal of the people, and without the aid of special legislation.

The rapid spread of manufacturing industry, the development of vast natural resources, and the great increase of wealth which have characterised the present century, have not been productive of unmixed good to the operative and poorer classes of society, for upon masses of workmen whose occupations oblige

THE IMPROVED INDUSTRIAL DWELLINGS COMPANY, (LIMITED)

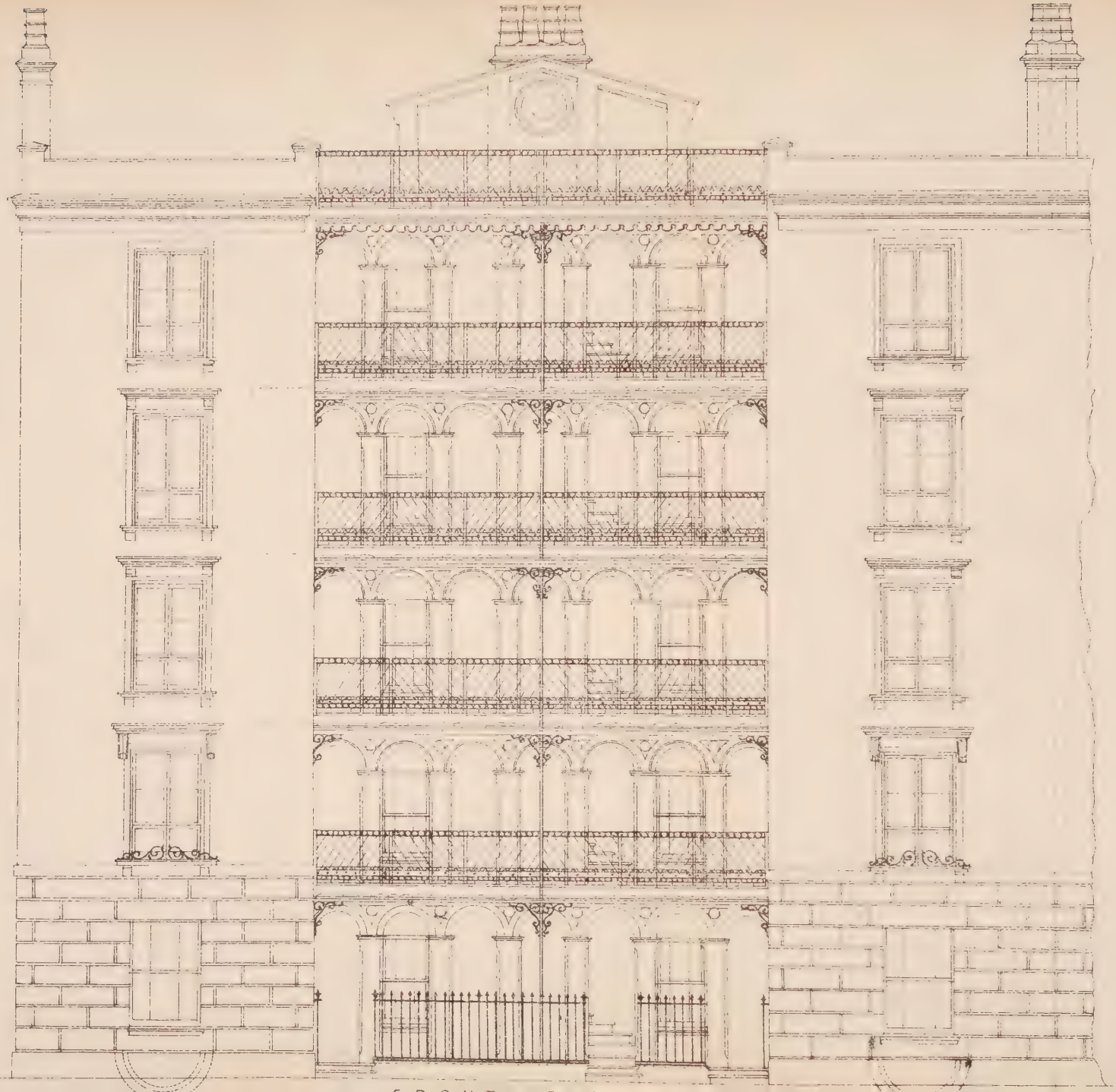


PLAN OF THE UPPER FLOOR.

Scale of 0 5 0 10 20 30 Feet

Day & Son (Limited) lith London W.C.

THE IMPROVED INDUSTRIAL DWELLINGS COMPANY, (LIMITED)



Names.

INDUSTRIAL DWELLINGS—*cont.*

them to reside within the limits of great cities, the march of progress has imposed conditions of social existence of the most baneful kind. Foremost among these deleterious influences is the over-crowding of dwellings, which, from the frightful proportions it has attained during the last few years, has attracted the special attention of all social reformers. Its physical and moral effects need not be depicted here; they are universally admitted. Indeed, no one at all acquainted with the subject can impugn the declaration of a noble philanthropist, that "the improvement of "the dwellings of the people is a condition precedent to all other "reforms." Nor is it necessary to describe here the various unsuccessful attempts which have been made towards the abatement of this great social disease, either by philanthropists, benevolent societies, or by politicians; it is enough to say that, however well intentioned they may have been, the results of either benevolent or legislative interference have hitherto fallen altogether short of the enormous demands of the case. It is now clearly understood, by all who have carefully studied the subject, that the only plan which is capable of dealing comprehensively with so gigantic an evil, is one which, while feasible and capable of unlimited extension, will not only invite the active imitation of those whose ordinary commercial avocations give them a personal interest in the question, but will also commend itself to the notice of capitalists and professional builders, in such a way as to provoke healthy competition on the part of those seeking fair interest and investments of unquestionable security.

The comparative failure of all previous attempts in this direction is in the main attributable to a neglect or mis-appreciation of the one indispensable condition of success—that the scheme should be commercially profitable.

Now, however, the Improved Industrial Dwellings Company has, it is submitted, by the exercise of a "free and spontaneous "initiative," and unassisted by any special legislative enactments, succeeded in putting this question practically before the public, by exhibiting in itself the practical working of a Joint Stock Company, having a comparatively large capital, raised and invested in such a manner as to place the fact of its business being profitable beyond all doubt. The possibility of accomplishing this important result was first established by Mr. Alderman Waterlow, who, unaided by anyone, took the entire responsibility of erecting homes for eighty families, and thereby demonstrated the practicability of his scheme, to the success of which the existence of this Company is attributable.

The Articles of Association, under which the affairs of the Company areadministered, are sent herewith.

At the present date about 63,000*l.* have been raised by the subscriptions of its shareholders, and of that amount some 40,000*l.* have been invested in the purchase of land in densely over-crowded districts, the removal of dilapidated and unhealthy dwellings from the sites, and the erection in their places of several blocks of lofty, commodious, and substantial residences. Altogether, about 27 separate and distinct tenements have been thus provided. Each tenement is totally self-contained and distinct from its fellow in every essential respect. It consists of two or three light, commodious, and cheerful apartments, together with a separate washhouse or scullery, and a w.c., all enclosed within its own front door. Every tenement is well supplied with fixtures and fittings, so as to make it, so far as the house itself is concerned, a comfortable and attractive home for a working man—a benefit of which he is not slow to avail himself, for all the buildings yet erected have been filled with eager tenants from the moment of their completion, and the representatives of the Company are constantly beset by applicants for possible vacancies.

The improvement of the *morale* of the inhabitants of these buildings is unquestionable. It arises, doubtless, from the families occupying these houses being removed from the bad

Names.

INDUSTRIAL DWELLINGS—*cont.*

associations and influences to which they were before unavoidably exposed, as well as to the pure air and ample supply of water to which most of them find access for the first time ; but, above all other proofs of the suitability and salubrity of the dwellings, is the unimpeachable testimony of a diminished rate of disease and death. This most unmistakeably shows that the new conditions under which the occupants of these houses are placed, strike at once at the heart of those deadly influences, acting equally on mind and body, which have been the growth of years in the fœtid, unwholesome, and filthy dwellings incidental to the old state of things.

The reports and balance-sheets sent herewith show that the economic results of the investments of the Company are such as to afford a profit of rather more than 6½ per cent., after allowing liberal deductions from the annual receipts, to provide for every possible risk attendant upon the enterprise.

In conclusion, the Directors desire to express their opinion that this Society, and especially its founder, Sir Sydney Waterlow, comes strictly within the conditions of the "Distinct order of "reward, instituted in favour of persons, establishments, or "localities which, by a special organisation have developed a "spirit of harmony, and have provided for the material, moral, "and intellectual well-being of the workman."

The results recorded have been obtained as "the consequence "of a free and spontaneous initiative, and not of legislative "enactments."

"They are compatible with sustained and progressive "prosperity."

They tend to "maintain intact traditional circumstances of "harmony and happiness," by preserving the individuality of each man's house, so dear to Englishmen, by stimulating his self-reliance, and thus removing conditions which promoted the "antagonism and suffering of classes," and—

Lastly, although the Improved Industrial Dwellings Company, Limited, are not engaged, strictly speaking, in "agricultural or "commercial pursuits," they have "founded durable and pros-"perous institutions, contributing to the propagation of good "feeling and happiness" among those who form the most numerous class of society.

BUILDINGS erected upon the Open Staircase plan, first adopted by ALDERMAN SIR SYDNEY WATERLOW.

NAME OF BUILDINGS.	WHERE SITUATE.	OWNERS.	No. of Separate Tenements.	No. of Rooms and Washhouses.
Langbourne Buildings	Mark Street, Finsbury	Alderman Sir Sydney Waterlow	80	260
Tower Buildings	Brewhouse Lane, Wapping	Improved Industrial Dwellings Company, Limited.	60	210
Cromwell Buildings	Red Cross Street, Southwark	Ditto ditto	22	76
Cobden Buildings	King's Cross Road	Ditto ditto	18	62
Stanley Buildings	Old St. Pancras Road	Ditto ditto	101	351
Palmerston Buildings	City Garden Row, City Road	Ditto ditto	72	252
Corporation Buildings	Farringdon Road	The Corporation of London	168	584
Highgate Dwellings	Jackson's Lane, Highgate	Highgate Improved Dwellings Company, Limited.	50 Some are single rooms.	90
			571	1,885

Names.

INDUSTRIAL DWELLINGS—*cont.*

REPORT of the Council of Hygiene and Public Health of the Citizens Association of New York upon the Sanitary Condition of the City, published by order of the Council of Citizens' Association, New York, 1865.

Extract from Page 85.

The following facts appear to have been well established regarding means by which success has been, and is being attained in the schemes of dwelling improvement abroad:

First.—That sanitary knowledge and architectural skill must be combined in the production of the necessary plans of construction.

Second.—That, however sincere and devoted the philanthropy and zeal that advocates the improvements, and procures the co-operation of capitalists in such improvements, the improved houses must pay a reasonable interest upon the capital invested, or but little progress will be made, and but a small amount of relief will be afforded to the classes for whose benefit the efforts are made.

All this, of course, is so reasonable that no further remarks upon either of the two propositions are required. It now remains to present a single example of the successful combination of all these essential conditions in working out the grand result. For this purpose it is believed, from recent reports, that the history and plans of Mr. Peabody's Improved dwellings might properly be brought forward; but the plan of the first buildings constructed by the trustees of his gift extends over a larger area than would often be adopted in New York. The experience, also, has been brief. The example we prefer to present is that of Mr. Alderman Waterlow's "Healthy Dwellings for the In-" dustrial Classes." On the opposite page is shown a diagram of the floor plan of the first tenant dwelling erected by Mr. Waterlow in Finsbury Square, London. It was designed for, and is occupied by, the families of industrious men with small means.

This plan is presented as an illustration of success in the attainment of the requisite conditions for healthy homes in a tenant house.

In this house twenty families are accommodated, and can enjoy that kind of domestic comfort and convenience which is essential to physical and social health.

Fresh air and sun-light in every apartment—a convenient and proper distribution of domestic apartments—a convenient arrangement of the domiciles with reference to local drainage, and the avoidance of all nuisances—and a plan of arrangement of the respective domiciles, and of access thereto, that in a great measure overcomes the tendency to gregarious herding that prevails in ordinary tenant houses.

Let plans like this be so modified and Americanized as to suit American tastes and preferences, and the value of such domiciles would become sufficiently popular to make them pay even a higher rental than Alderman Waterlow now receives, and which was, for the first year, about seven per cent. upon total investment and leasehold.

The Report, from which the above is an extract, was signed by the following Members of the Council:—

Joseph M. Smith, M.D., President; William Parker, M.D., Vice-President; Valentine Mott, M.D.; Edward Delafield, M.D.; Alonzo Clarke, M.D.; Gurdon Buck, M.D.; James R. Wood, M.D.; James Anderson, M.D.; Charles Henschell, M.D.; Alfred C. Post, M.D.; Isaac E. Taylor, M.D.; John W. Draper, M.D.; R. Ogden Doremus, M.D.; Stephen Smith, M.D.; Henry D. Bulkeley, M.D.; Elisha Harris, M.D., Secretary.

3. Memorandum and articles of the association.
4. Reports of the half-yearly meetings.
5. Prospectus and sixth half-yearly report, together with extracts from the Press.
6. Elevation plans and sections of buildings.

Names.

LABOURING CLASSES-

1. Annual Reports.
2. Prospectus with plans.
3. Statistics of population and rates of mortality.

MORTALITY in the Society's Buildings, 1865.

ESTABLISHMENTS.		Number of Families.	Number of Females in Single Rooms.	Average Population.	Deaths.	
					Adults.	Children.
Model Houses for Families.	Streatham Street -	46	—	224	1	2
	Portpool Lane -	18	106	192	2	—
	Wild Court - -	95	—	364	4	3
	Tyndall's Buildings -	67	—	370	1	1
	Clark's Buildings -	65	—	261	6	6
Model Lodging Houses for Single Men.	George Street - -	—	—	102	2	—
	Charles Street -	—	—	80	—	—
	Hatton Garden -	—	—	50	—	—
	Tyndall's Buildings -	—	—	35	—	—
	Totals - -	291	106	1,678	16	12

The mortality in the entire property of the Society has this year been 28 out of an average population of 1,678; 12 of the deaths were of children under eight years of age.

The average rate of mortality in the Society's houses has been therefore only 16·68 per 1,000.

MODEL HOUSES for Families and Single Women.

ESTABLISHMENTS.	Average Population.			
	Males.	Females.	Children.	Total.
Streatham Street.—For 54 families - -	46	49	129	224
Portpool Lane.—For 20 families, and 128 single women - -	18	125	49	192
Wild Court.—Renovated dwellings for families -	95	115	154	364
Clark's Buildings.—Renovated dwellings for families - -	65	79	117	261
Tyndall's Buildings.—Renovated dwellings for families - -	67	80	223	370
			Totals	1,411

Names.

LABOURING CLASSES —*cont.*

Average population in all the family houses and rooms for single women - -	1,411
And lodging houses for single men - -	267
Grand total - - -	1,678

MODEL LODGING HOUSES for Single Men.

ESTABLISHMENTS.	Average Number of Inmates.
George Street House.—For 104 single men - - - - -	102
Hatton Garden House.—For 54 single men - - - - - -	50
Charles Street House.—For 82 single men - - - - -	80
Tyndall's Buildings Lodging House.—For 40 single men - - - -	35
Total -	267

4. Table showing the amount paid by persons for the room let by the society.

Buildings.	Weekly Rentals.	s.	d.
Model Lodging House for 54 families (including six basements), Streatham St., Bloomsbury.	6 houses of 3 rooms, let at -	7	6
	6 „ „ -	6	6
	17 „ „ -	6	0
	7 „ 2 „ -	5	6
	6 „ „ -	5	0
	2 „ „ -	4	6
	4 „ „ -	4	0
	4 basement rooms for -	5	0
	2 „ „ -	3	6
	1 „ „ -	3	0
	1 „ „ -	2	6
	1 „ „ -	2	3
	1 „ „ -	2	3
	54		
Model Buildings for 20 families and 64 rooms for single women, Portpool Lane, Gray's Inn Lane.	3 houses of 3 rooms, let at -	6	0
	3 „ „ -	5	6
	7 „ 2 „ -	5	0
	6 „ „ -	4	6
	1 mission house -	Free	
	20		
	Single Rooms.		
	48 rooms, let at - -	2	0
	16 „ - -	1	6
	64		

Name.			*s.*	*d.*
LABOURING CLASSES —*cont.*	Renovated Dwellings for families, Wild Court, Drury Lane.	15 rooms, let at	3	0
		13 „	2	9
		15 „	2	9
		13 „	2	3
		33 „	2	0
		6 „	1	9
		10 „	1	8
		3 „	1	6
		108		
	Renovated Dwellings for families, Clark's Buildings, Broad Street, St. Giles.	10 rooms, let at	3	6
		21 „	3	0
		38 „	2	6
		1 „	2	3
		14 „	2	0
		2 „	1	6
		86		
	Model Lodging House, for 54 single men, Hatton Garden.	8 rooms, let at	3	6
		32 „	3	0
		14 „	2	6
		54		
	Model Lodging House for 82 single men, Charles Street, Drury Lane.	4*d.* nightly, or 2*s.* weekly.		
	Model Lodging House for 104 single men, George Street, St. Giles.	60 rooms, let at	3	0
		44 „	2	6
		104		
	Renovated Dwellings for families, and Lodging House for 40 single men, Tyndall's Buildings, Gray's Inn Lane.	3 rooms, let at	3	6
		6 „	3	0
		15 „	2	9
		28 „	2	6
		9 „	2	3
		6 „	2	0
		7 „	1	9
		1 „	1	6
		1 „	1	3
		76		
		2 shops, let respectively at 6*s.* & 8*s.*		
		2 first floors, let at each 4*s.*		
		2 second floors, let at each 4*s.*		
		2 third floors, at respectively 3*s.* and 3*s.* 6*d.*		
		Men's Lodging House.		
		4*d.* nightly or 2*s.* weekly.		

Names.

LABOURING CLASSES —*cont.*

5. List of tenants' trades and occupations.

LIST OF TENANTS' TRADES AND OCCUPATIONS.

Artist	1	Dyers	8	Plumbers	3
Bricklayers	3	Dress-makers	2	Police-officers	6
Brass-finishers	2	Engraver	1	Porters	23
Bookbinders	6	Engineers	2	Printers	16
Boot-makers	9	Furriers	3	Pump-makers	2
Butcher	1	French-polishers	3	Pensioners	2
Blacksmiths	4	Gas-fitter	1	Reporters	3
Bag-maker	1	Grocers	2	Shopmen	8
Butler	1	Grooms	3	Sempstresses	16
Brewers	4	Hatters	2	Sadlers	2
Bakers	2	Harness-maker	1	Stone-masons	6
Bailiff	1	Hawkers and Costermongers	18	Soap-maker	1
Bill-posters	5	Hair-dressers	7	Servants	5
Cabinet-makers	6	Instrument-maker	1	Scale maker	1
Compositors	6	Iron-founder	1	Silversmiths	2
Clerks	18	Jeweller	1	Sawyers	2
Cabmen	2	Labourers	202	Tailors	14
Coach-maker	1	Label-maker	1	Travellers	2
Coach-trimmers	3	Librarian	1	Trunk-makers	2
Carpenters	14	Modeller	1	Turners	3
Commission Agents	12	Machinist	1	Tin-worker	1
Chemist	1	Messengers	3	Toy-maker	1
Carvers & gilders	6	Missionary	1	Upholsterer	1
Cellarmen	3	News-agent	1	Wood-carver	1
Cork-cutters	2	Nurses	2	Whip-maker	1
Charwomen	22	Optician	1	Waiters	3
Decorators	3	Plasterers	2	Writers	7
Drapers	8	Painters	17	Total	576
Dealers	6				

LEEDS PERMANENT BUILDING SOCIETY.

1. Henry Cole, Esquire, C.B.

SIR,—Sickness has hitherto prevented the return of the schedules and appendix on the subject of the rewards for institutions promoting the material, moral, and intellectual well-being of the working classes. Believing that the operations of the Leeds Permanent Building Society have been prominent in that respect, I now furnish them, hoping that they will not be too late for the object.

It would, however, require a long treatise to show half the benefits which have arisen from its operations. It is truly cheering to hear the members themselves at occasional meetings, tell how, from small savings hitherto deemed too little for active application, they began to invest in the society, then to build or buy; then to advance in life and some to competence, from extending in this way. And as the conditions of the society in making advances are safe and sound, so they work on continuously; and it is very rare indeed that property is forfeited on account of not paying the contributions. The kind, condition, and fitness of the property is also carefully considered by the Committee when advances are required. The drainage, conveniences, roads, and water are arranged for, and thus gradually the standard of worth and fitness has been elevated. The kind of houses erected by the members are decidedly superior to those built for speculation; and being for themselves, a better superintendence is kept as to their condition.

The provident habits and knowledge thus induced are most beneficial to the members. And the result is that the careless become thoughtful; and on saving become orderly, respectable, propertied, and in every way better citizens, neighbours, and more worthy and comfortable. The employment of money in this useful direction encourages trade, advances prices and wages, and comforts the working classes, and at the same time provides the means of home enjoyments, without which such advances would be comparatively useless, and certainly uncertain.

Names.

LEEDS PERMANENT BUILDING SOCIETY —*cont.*

This society has been copied by many others both in Leeds and elsewhere, and thus it has originated healthy institutions giving abiding benefits to all concerned. During the general monetary panic of June 1866, a false rumour prevailed on the security of the society, but it was soon proved groundless, and it now stands higher than ever.

JOHN HOLMES,
Nevile St., Leeds.

2. Copy of rules of society.
3. Prospectus of society.
4. Copy of 7th annual report.
5. Copy of 1st report.
6. Prospectus and rules of society for the erection of improved dwellings.
7. Plans and elevation of Leeds model cottages.

LONDON LABOURERS' DWELLINGS SOCIETY.

1. To the MEMBERS of the SPECIAL JURY for the New Class of Rewards.

GENTLEMEN, Hastings, Jan. 26, 1867.

As you invite supplemental information respecting each institution, besides what is given in the answers to your questions, I take the liberty of mentioning some additional particulars relating to the "London Labourers' "Dwellings Society, Limited."

The origin of the Society has been mentioned in the answer to question 69, and therefore I will merely add (in order to prevent misapprehension) that, though in one sense it is intimately connected with the "Hastings Cottage Improvement Society," (inasmuch as this latter society was the indirect cause of its foundation, and both have been partly managed by the same individual,) yet the two societies are in a legal and commercial point of view entirely distinct, and the prosperity of each is quite independent of that of the other. As, however, there has been a sort of unity of plan observed in their establishment, constitution, and management, each society is enabled to profit occasionally by the other's experience.

A "Benevolent Fund" has been established in connexion with the Society for the purpose of affording occasional relief to the tenants in time of sickness or distress, and of subscribing to local charitable and useful institutions. It has not hitherto been of much use, but it has existed from the first establishment of the Society, and it is hoped very shortly to bring it into more active operation.*

In reference to question 59, I may say that, as the establishment of a benefit club in connexion with the "Hastings Cottage Improvement Society," had after mature deliberation been found undesirable, the subject was not discussed at all in connexion with the London Labourers' Dwellings Society, as in the metropolis the matter would probably have been still less practicable than at Hastings.

Latterly one week's rent has been given back as a bonus at the end of each half-year to those tenants who have paid their rent quite regularly during the preceding twenty-six weeks, and have conducted themselves properly in other ways: this is deposited in their names in the Post Office Savings Bank, and thus acts as a direct encouragement to the tenants to continue to deposit their savings there.

There are no schools or libraries in connexion with the Society, but it should be mentioned, and particularly borne in mind, that the tenants do not live in one or more large establishments, but in small separate tenements in differents parts of London, and cannot therefore be subjected to the same regulations and management as if they were congregated together in large blocks of buildings.

When a Working Men's Club was established in the neighbourhood of one of the Society's properties, it was assisted by a subscription from the benevolent fund.

No special arrangement is made to promote temperence among the tenants of the Society, but intemperance and immorality are discouraged, as far as possible, by warning, and, if necessary, removing the offenders from the Society's houses.

In answer to question 70, and in reference to the principles adopted by the jury on Dec. 1, 1866, it may be stated:—

1st. That the Society was undoubtedly founded in "the spirit of charity and beneficence," with the hope of improving in the first instance the physical condition of the tenants, and, as a consequence, their moral character also. The commercial element was only added as a means of carrying out this object more completely, because of the impossibility of raising sufficient funds for the purpose in any other way. In proof of this it may be mentioned that one of the original founders had previously taken part in a similar undertaking, which had been conducted solely on a charitable basis, and which had comparatively failed (or at least had not been found to be "compatible with sustained and progressive prosperity,") for that very reason.

2nd. That the establishment of the Society was entirely the "consequence of a free and spontaneous initiative, and not of legislative enactments."

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* Since this letter was written the Benevolent Fund has been placed upon a satisfactory basis by the transfer to it of 500*l.* from the Reserve Fund, which sum has been invested in shares of the Society's capital.

Names.

LONDON LABOURERS' DWELLINGS SOCIETY —*cont.*

3rd. That, when the origin and progress of the Society is considered, (the capital having increased from 3,400*l.* to 27,000*l.*,) together with the fact that it has existed for six years without exhibiting at present any obvious symptoms of decay, it is presumed that it is not only "praiseworthy in itself," but also may be considered to be "compatible with sustained and progressive prosperity."

4th, and lastly, that, as "the state of well-being" has been promoted by the greater physical comfort arising to the tenants from their improved dwellings, and "the state of harmony" by recognizing the principle that it is the positive duty of landlords (within certain limits,) to consider the welfare of their tenants, thus helping to maintain a friendly feeling between the two classes, it is believed that the founders of the Society have established a "durable and prosperous institution, contributing to the propagation of good-feeling and happiness."

I have forwarded a complete set of the Reports and some other papers issued by the Society, which contain abundant statistical details, and the means of verifying most of the statements made in this letter and in the answers to your questions; and am,

Gentlemen,
Your obedient servant,
W. A. GREENHILL, M.D., Oxon.,
Secretary to the "London Labourers' Dwellings Society, Limited."

2. Copy of Fundamental Regulations of the Society.
3. Copies of eleven half-yearly Reports of the Society.
4. Copy of prospectus and regulations of the Charity Trust of the London Labourers'-Dwellings Society.

MARYLEBONE ASSOCIATION FOR IMPROVING THE DWELLINGS OF THE INDUSTRIAL CLASSES.

1. TERMS and CONDITIONS under which the rooms are let.

1. Weekly tenancy; determinable by either party on one week's notice, a notice to quit signed by the Secretary for the time being, and either served personally on the tenant or affixed upon the door of the room, being sufficient on the part of the Association.

2. All notices and warrants signed by the Secretary for the time being are binding upon the tenant without further evidence of authority.

3. No arrears of rent to be incurred.

4. No lodger or other person shall be taken in by any tenant to reside without the permission of the Secretary.

5. All stairs and passages to be swept before ten every morning, and scrubbed or whitened when necessary, and on every Saturday each tenant in turn shall cleanse the yard and water-closet, and all windows to be kept clean and perfect.

6. No clothes to be hung out of the front windows, or on the railings.

7. Every tenant shall cause his chimnies to be swept when in constant use, at least once in every four months.

8. All dust to be deposited in the dust holes, and no carpets, mats, or other things to be shaken in the passages.

9. All broken windows or any damage done in the apartments during tenancy to be immediately made good by the tenant.

10. No children to be allowed to play in the passages, on the stairs, or on the flat roof, to the annoyance of other tenants.

N.B.—No dogs allowed to be kept.

2. Prospectus.
3. Twelve annual Reports.
4. Circular letters relating to the working of the Association.

METROPOLITAN ASSOCIATION FOR IMPROVING THE DWELLINGS OF THE INDUSTRIOUS CLASSES.

1. Table. (See table printed separately.)
2. Rules and terms.

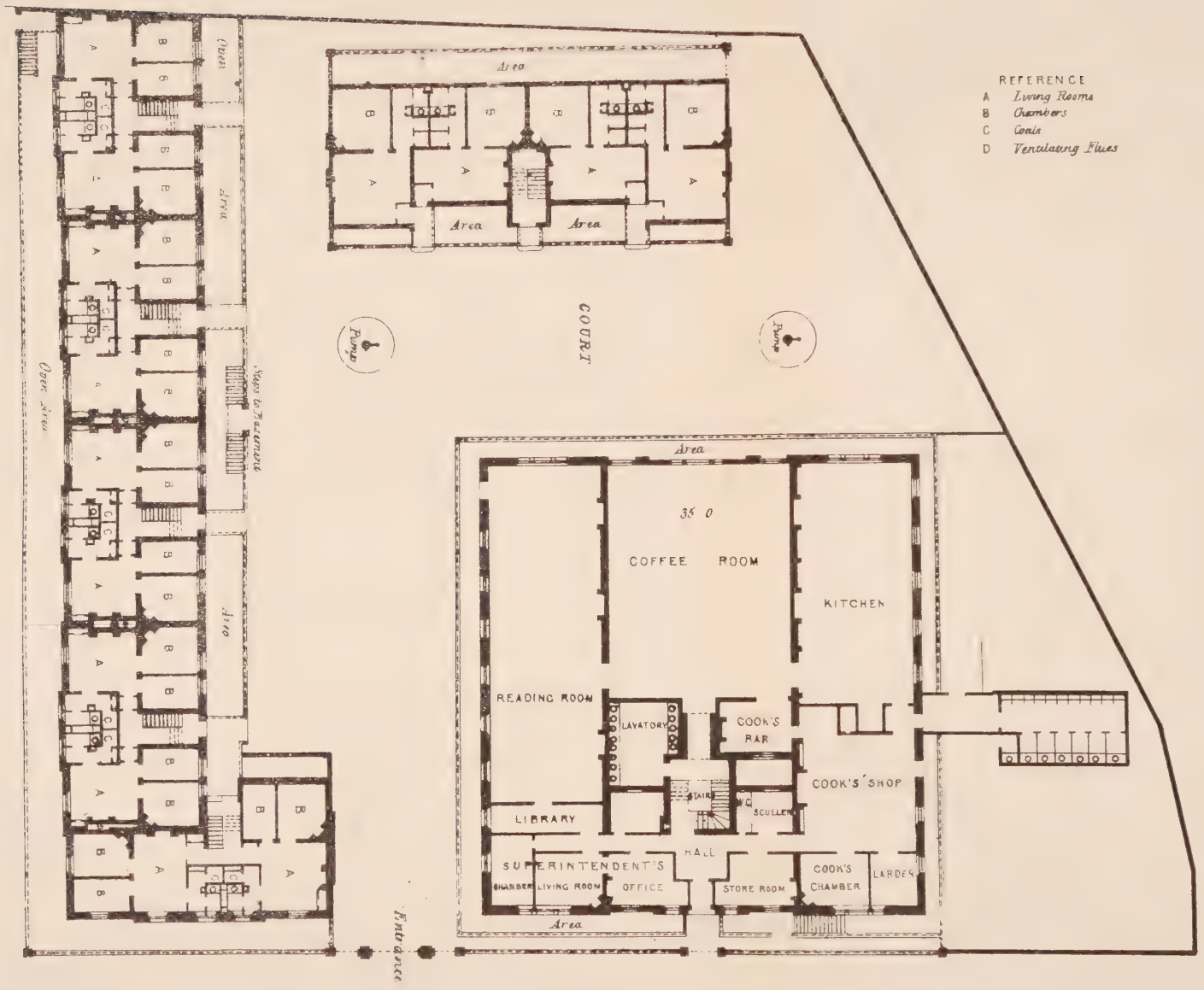
ALEXANDRA COTTAGES, PENGE, SURREY.

Tenancy to be weekly, commencing on Monday, the day of , 18 , and ending on the following Monday, the same to be determinable on either side, on giving one week's notice.

entered on the day of 18 .

Rent for the first days , and for every subsequent week , payable always in advance

"METROPOLITAN BUILDINGS," SPITALFIELDS.

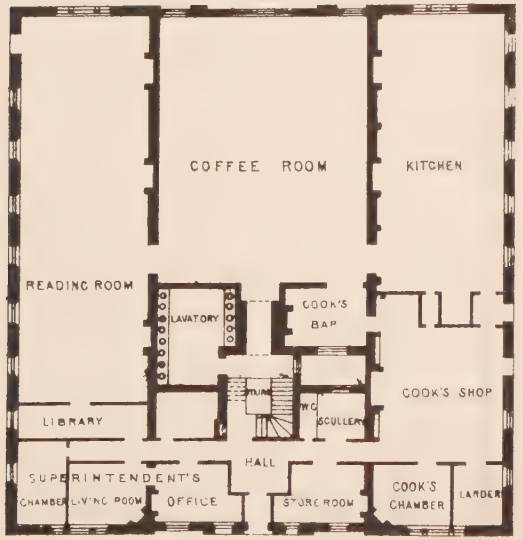


"METROPOLITAN BUILDINGS," SPITALFIELDS.

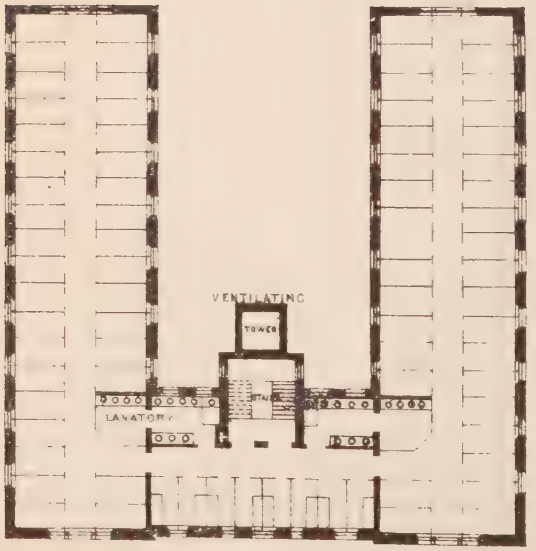
SECTION OF BACK OF HOUSE.

"METROPOLITAN BUILDINGS," SPITALFIELDS.

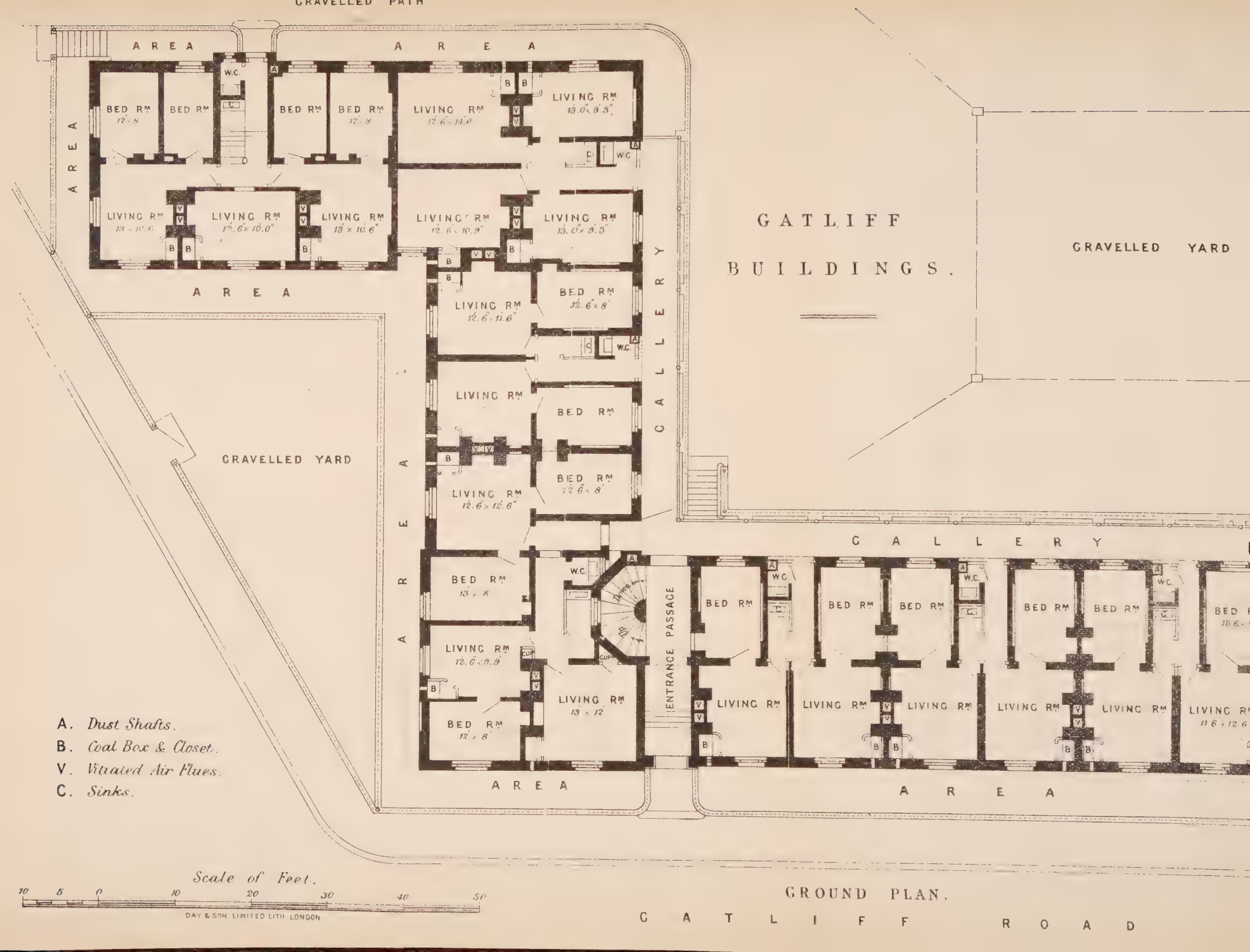
SECTION



PLAN OF GROUND STORY



PLAN OF ONE PAIR STORY
TWO STORIES OVER, EXACTLY SIMILAR


GRAVELLED PATH
AREA
AREA
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AREA
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AREA
AREA
AREA
AREA
W.C.
BED RM
BED RM
BED RM
BED RM
LIVING RM
LIVING RM
13.0" x 9.3"
LIVING RM
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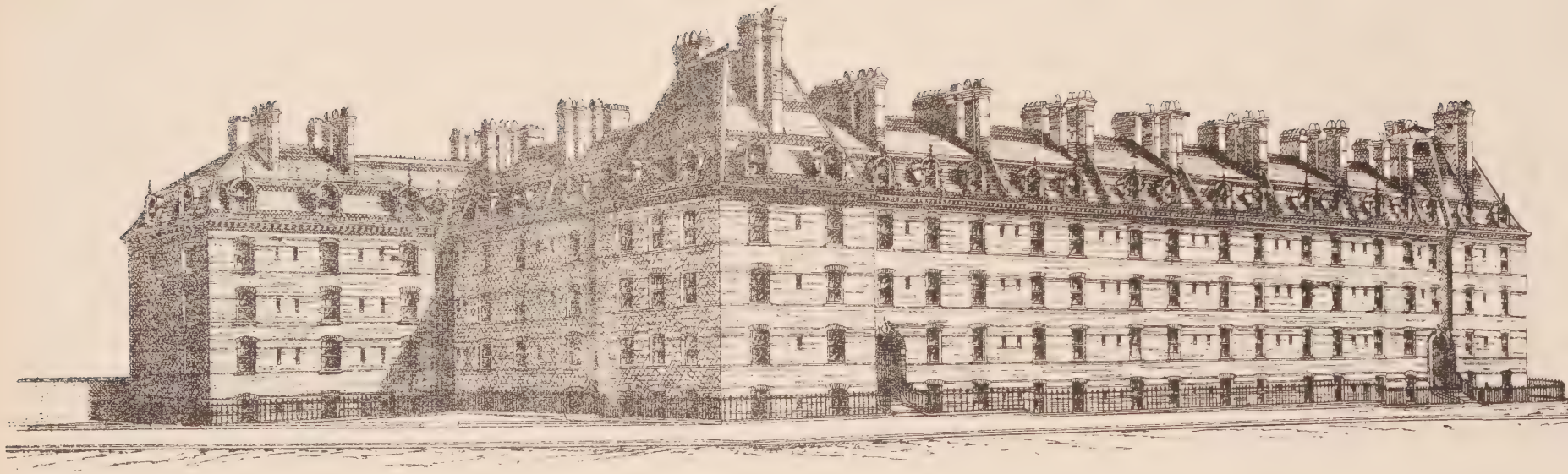
GATLIFF
BUILDINGS.
GRAVELLED YARD
GRAVELLED YARD
GALLERY
GALLERY
ENTRANCE PASSAGE
A. Dust Shafts.
B. Coal Box & Closet.
V. Vitrated Air Flues.
C. Sinks.
Scale of Feet.
10 5 0 10 20 30 40 50
DAY & SON LIMITED LITH LONDON
GROUND PLAN.
GATLIFF ROAD



CATLIFF BUILDINGS.

EXTERNAL FRONT ON CATLIFF ROAD.

NEAR THE NEW BARRACKS, CHELSEA BRIDGE ROAD.

Names.

METROPOLITAN ASSOCIATION—*cont.*

subject to the rules for the time being of the Metropolitan Association for Improving the Dwellings of the Industrious Classes.

Fixtures in the Rooms.

Four-roomed cottage.—Kitchen: Range and oven, with pantry and shelves. Parlour: Register stove; cupboard, with shelves and two doors. Bedrooms: stoves; clothes cupboard, with three hooks. Wash-house: sink and tap; copper with lid. Watercloset: seat and pan, with draw ring to communicate with cistern over; latch on door. Locks and keys to parlour and street doors, and spring locks to all other doors, except watercloset.

Five-roomed cottage.—Kitchen: Range and oven; copper, with lid; sink and trap. Parlour: Register stove; cupboard, with shelves and two doors; pantry and shelves. Bedrooms: stoves in each room; clothes cupboard, with three hooks. Watercloset: seat and pan, with draw ring to communicate with cistern over, latch on door. Locks and keys to parlour and street doors, and spring locks to all other doors except watercloset.

TERMS of the Metropolitan Association.

1. The rents to be paid in advance, and will be received on the Saturday evening after six o'clock, or at any hour on the Monday till ten o'clock p.m. No arrears will be allowed.
2. All broken windows must be kept in repair, and no flower-pots are to be exposed on the outside ledges without sufficient protection (under a penalty of 40*s.*, see Police Act); neither shall any clothes or unsightly objects be exposed to view.
3. All clothes-lines must be taken down unless in actual use; neither may such be used for carpet beating.
4. No carpets, mats, &c. can be allowed to be beaten or shaken after ten o'clock in the morning, except on a Saturday.
5. Drunken or disorderly tenants will be subject to have their tenancy terminated immediately, and forfeit the rent paid.
6. All chimneys in constant use must be swept by the tenants at least once every three months, and in default the collector may cause the same to be done, and charge 4*d.* for so doing.
7. A tenant wishing to change his cottage for another belonging to the Association, to pay one half of the expense of the repairs of the rooms he wishes to change to, and half the expense of the repairs necessary to be done to those he leaves.
8. Liquids or any refuse are strictly forbidden to be thrown in the garden or forecourt.

N.B.—To cleanse the cisterns, it is necessary the water should be drawn off, that when the supply is turned on the sink tap should be left running a short time to wash the cistern out; and care must be taken that the sink is perfectly free, or an overflow will take place.

CHARLES GATLIFF, Secretary.

GATLIFF BUILDINGS, COMMERCIAL ROAD, PIMLICO.

Family Dwelling, No.

Tenancy to be weekly, commencing on Monday the day of 186 and ending on the following Monday, the same to be determinable on either side, on giving one week's notice.

entered on the day of 186 .

Rent for the first days and for every subsequent week payable always in advance, subject to the rules for the time being of the Metropolitan Association for Improving the Dwellings of the Industrious Classes.

Fixtures in the Rooms.

Range and oven as fixed; cupboard and two shelves, coal cupboard and box. Stove in bedroom. Locks, keys, and bolts.

Names.

METROPOLITAN ASSOCIATION—*cont.*

GENERAL CONDITIONS for the Family Dwellings in Gatliff Buildings, Commercial Road, Pimlico.

1. The rents to be paid in advance. They will be received on the Saturday evening after six o'clock, or at any hour on the Monday till ten o'clock p.m. No arrears will be allowed.

2. The passage leading to each set of rooms, and the gallery in front of the same, to be swept daily, and washed and whitened every Saturday by the tenant.

3. All broken windows must be immediately repaired by the tenant. Clothes or unsightly objects must not be exposed to view.

4. No carpets, mats, &c. to be beaten or shaken after ten o'clock in the morning, except on a Saturday, and in the place set apart for that purpose.

5. All chimneys in constant use must be swept by the tenants at least once every three months, and in default the collector may cause the same to be swept, and charge 4*d.* for each chimney for so doing.

6. A tenant wishing to change his rooms for others in the same building, to pay one half of the expense of the repairs of the rooms he wishes to change to, and half the expense of the repairs necessary to be done to those he leaves.

7. It is strictly forbidden to throw into the dust shafts, liquids, old bedding, straw, mats, carpets, wicker work, or anything likely to create an obstruction, or to throw any refuse into the court-yard.

8. Underletting will not be allowed.

9. In order to prevent overcrowding, the Association will exercise the right of deciding what number of persons shall occupy a single room, or a set of rooms.

10. A laundry is provided for the use of the tenants for their own washing, but it cannot be used for the purpose of carrying on the trade of a laundress.

11. All clothes-lines must be taken down unless in actual use, or other persons will be at liberty to use them.

12. Children are not to play or make a noise on the stairs, in the passages, or in the drying rooms.

13. Drunken or disorderly tenants will be subject to have their tenancy terminated immediately, and forfeit the rent paid.

Subject to what is stated above, there will be no interference with the tenants. They will be able to enter and go out of their rooms freely, at all times of the day and night.

12th Dec. 1866.

CHARLES GATLIFF,
Secretary to the Metroplitan Association for Improving the Dwellings of the Industrious Classes.

19, Coleman Street, London, E.C.

No. 37.

FAMILY DWELLING, No. .

Tenancy to be weekly, commencing on Monday, the day of 185 , and ending on the following Monday, the same to be determinable on either side on giving one week's notice. entered on
the day of 185 .

Rent for the first days , and for every subsequent week , payable always in advance, subject to the rules for the time being of the Metropolitan Association for Improving the Dwellings of the Industrious Classes.

Fixtures in the Rooms.

Range, boiler, and oven, as fixed; cupboard and shelves, and coal cupboard; stove in bedroom; sink and trap, cistern, plate rack, and watercloset, as fixed; locks, keys, and 1 bolt; 2 taps.

Names.

METROPOLITAN ASSOCIATION—*cont.*

GENERAL RULES for the Family Dwellings of the Metropolitan Association.

1. The rents to be paid in advance, and will be received on the Saturday evening after 6 o'clock, or at any hour on the Monday till 10 o'clock p.m. No arrears will be allowed.

2. The stairs and passage leading to each set of apartments to be swept daily, and washed and whitened every Saturday.

3. All broken windows must be kept in repair, and no flower-pots are to be exposed on the outside ledges without sufficient protection (under a penalty of 40*s.*, see Police Act), neither shall any clothes or unsightly objects be exposed to view.

4. Children are not to play or make a noise on the stairs, in he passages, or in the drying ground.

5. All clothes-lines must be taken down unless in actual use, or other persons will be at liberty to use them.

6. No carpets, mats, &c. can be allowed to be beaten or shaken after 10 o'clock in the morning, except on a Saturday, and in the place set apart for that purpose.

7. Drunken or disorderly tenants will be subject to have their tenancy terminated immediately, and forfeit the rent paid.

8. All chimneys in constant use must be swept by the tenants at least once every three months, and in default the collector may cause the same to be done, and charge 4*d.* for so doing.

9. A tenant wishing to change his apartments for others in the same building, to pay one half of the expense of the repairs of the rooms he wishes to change to, and half the expense of the repairs necessary to be done to those he leaves.

10. Liquids are strictly forbidden to be thrown down the dust shafts, or any refuse into the drying or front grounds.

N.B.—To cleanse the cisterns, it is necessary the water should be drawn off, that when the supply is turned on the sink tap should be left running a short time to wash the cistern out; and care must be taken that the sink is perfectly free, or an overflow will take place.

CHARLES GATLIFF, Secretary.

METROPOLITAN CHAMBERS for Single Men, Albert Street, Mile End New Town.

TERMS.

The tenancy is weekly, commencing at noon on a Monday, and determinable by either party on giving at least one day's notice, to expire on a Monday.

The rent is payable one week in advance, with a deposit of one shilling for the return of the keys of the sleeping compartment and lockers.

The chambers are open from 5 o'clock in the morning until 12 o'clock at night, and any tenant will be admitted till 1 o'clock a.m. (but not later) by the night porter, whose duty it is to close the door of the sleeping compartment after such tenant.

The gas is turned off throughout the house not later than 12 o'clock.

N.B.—Property belonging to the tenants is at their own care and risk, but in case of robbery the Association will prosecute at its own expense.

The following rules having been framed with a view to the general comfort of the tenants, will doubtless meet with their support:—

Tenants using the tea and coffee pots or cooking utensils are to return them to the place from which they are lent out, and each tenant will be liable to make good any wilful damage occasioned by him to the property of the Association.

No tenant will be admitted into the chambers or allowed to remain there in a state of intoxication, and spirituous liquors are not to be brought into the chambers.

Card playing, gambling, quarreling, or profane or abusive language is not permitted in the chambers, and any tenant persisting

Names.

METROPOLITAN ASSOCIATION—*cont.*

in being quarrelsome, dirty, or disorderly, or in knocking at the doors or windows, or otherwise disturbing the house, will be subject to have his tenancy terminated immediately, and forfeit the rent paid.

Tenants are not to show visitors over the chambers without leave of the superintendent, nor are female visitors to the tenants allowed to remain in the chambers.

C. GATLIFF,
Secretary.

19, Coleman Street,
22nd September 1852.

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3. Copy of the Charter of Incorporation and of Supplemental Charter.
4. List of Shareholders.
5. Copy of resolutions of the meeting held on the 15th day of September, 1841, forming the Association.
6. Copy of twenty-second report.
7. 1st to 22nd annual report of directors.
8. A few suggestions on improved dwellings.
9. View and plan of Gatliff's Buildings.
10. Plan of Buildings near Old St. Pancras Church.
11. Elevation and plan of buildings near Spicer Street, Spitalfields.
12. Plans of cottages at Penge and Spitalfields.
13. Plan of the family dwelling in Albert Street, Spitalfields.
14. Copy of "Healthy Homes."
15. Form of weekly rental account.
16. Specimen of rent collecting book.
17. Specimen book of weekly receipts.

VANCE, T., MODEL LODGING HOUSES IN DUBLIN.

1. Letter on model lodging house system.

Special Reward.

SIR, Blackrock House, Blackrock, Co. Dublin.

I HAVE forwarded to you by this day's post plans, drawings, and rules of my three model lodging houses.

I have devoted for some years much time and attention to this important subject, and it is only now that my example is being followed by companies under the Limited Liability Act. They will no doubt effect much good, but cannot be so successful as those sustained by private enterprise.

I have the satisfaction to state that in the four hundred apartments which my lodging houses contain I have not at this moment one room vacant. Another important feature is, misconduct on the part of any tenant or lodger is almost unknown.

It is useful, as well as gratifying to me, to be able to state from long experience that with prudence and economy establishments such as mine will yield four and a half per cent. per annum on the expenditure. I shall be most happy to furnish any further information, and if I am favoured with any mark of approbation from the Imperial Commission of the French Exhibition I shall esteem it a high honour.

I remain, Sir,
Your truly obedient Servant,
THOMAS VANCE.

Henry Cole, Esq.,
&c. &c.

2. Rules and regulations to be observed at model lodging houses.
3. Extract from Freeman's Journal, 21st Sept. 1866, concerning these houses.
4. Views of interior and exterior of houses.

Dwellings for 622 Families and 362 Single Men;

Secretary, 19, Coleman Street, London, 26th Jan. 1867.

ST OF BUILDING.				EXPENSES.		PER CENT.
st of lding, sive of	Cost per Room, exclusive	Gross Cost.	Gross Rents; Average of 3 Years.	Gross Expenses; Average of	Balance, subject to near ¾ per cent. for Staff Expenses.	ntage on Gross Cost.

ding.	Gross Cost.	Rent per Tenant per Week.	Gross Rents; Average of 3 Years.	Gross Expenses; Average of 3 Years.	Balance, subject to near ¾ per Cent. for Staff Expenses.	Per-centage.
d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	
3	13,772 7 3	2 6	1,141 8 0	919 1 11	222 6 1 profit.	$1\frac{5}{8}$
	1,422 7 7	3 6	716 15 10	939 16 7	223 0 9 loss. 222 6 1	—
	15,194 14 10		1,858 3 10	1,858 18 6	0 14 8 deficiency.	

il 1867, and the estimate of expenses is based upon the experience of similar buildings.

lings are also on flats, each family having its own street door.

ompartments by partitions not so high leaving space above for circulation of air.

ginally subscribed capital which was small, but as the capital has increased, the burden

16.

III.—CO-OPERATIVE SOCIETIES.

Names.	**1. Name of the establishment.** *a.* **Where situated.** *b.* **Full postal address.**
ASSINGTON FARM OF THE AGRICULTURAL CO-OPERATIVE SOCIETY.	The Agricultural Co-operative Society and Agricultural Association (two farms). *a.* Assington. *b.* Near Sudbury, Suffolk.
BLAYDON DISTRICT INDUSTRIAL AND PROVIDENT SOCIETY, LIMITED.	Blaydon District Industrial and Provident Society (Limited). *a.* Church Street. *b.* Blaydon-on-Tyne, County of Durham.
BRISTOL EQUITABLE AND INDUSTRIAL CO-OPERATIVE SOCIETY.	Bristol Equitable and Industrial Co-operative Society (Limited). 88, West Street, Bristol.
HULL ANTI-MILL INDUSTRIAL SOCIETY, LIMITED.	Hull Anti-Mill Industrial Society (Limited). Offices, 3, Land of Green Ginger; Mills, Steam and Wind, Holderness Road, Kingston-upon-Hull, Yorkshire.
KIRKHEATON CO-OPERATIVE INDUSTRIAL PROVIDENT SOCIETY.	Kirkheaton Co-operative Industrial Provident Society. Field Head, Kirkheaton, near Huddersfield, Yorkshire.
LEEDS INDUSTRIAL CO-OPERATIVE FLOUR AND PROVISION SOCIETY.	Leeds Industrial Co-operative Flour and Provision Society (Limited). *a.* Marshall Street, Holbeck. *b.* Leeds, Yorkshire.
LONG BUCKBY SELF-ASSISTANCE INDUSTRIAL SOCIETY.	Long Buckby Self-Assistance Industrial Society (Limited) *a.* Church Lane, Long Buckby. *b.* Near Rugby.
MANCHESTER AND SALFORD EQUITABLE CO-OPERATIVE SOCIETY.	Manchester and Salford Equitable Co-operative Society (Limited). Central Store, Downing Street, Ardwick, Manchester, and ten other branch establishments in and around Manchester and Salford.
NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY.	Mutual, Industrial, Shoe Manufacturing Society (Limited). 51, Grafton Street, Northampton.
NORTHERN CO-OPERATIVE COMPANY.	Northern Co-operative Company (Limited). 51, Gallowgate, Aberdeen, Scotland.
ROCHDALE DISTRICT CO-OPERATIVE CORN MILL.	Rochdale District Co-operative Corn Mill Society (Limited). Weir Street, Rochdale.
ROCHDALE EQUITABLE PIONEERS' SOCIETY.	The Rochdale Equitable Pioneers' Society (Limited). *a.* Toad Lane, Rochdale, besides eleven other branch places in or near Rochdale. *b.* Rochdale Equitable Pioneers' Society (Limited), Toad Lane, Rochdale.
WHITSTABLE COMPANY OF FREE FISHERS, &c.	The Company of Free Fishers and Dredgers of Whitstable, in the county of Kent. Whitstable, in the county of Kent.

	2. Name of the proprietor, or body of proprietors.
ASSINGTON FARM -	John Gurdon, landlord, 57 members.
BLAYDON - -	The members of the society.
BRISTOL - - -	Bristol Equitable and Industrial Co-operative Society.
HULL ANTI-MILL -	Hull Anti-Mill Industrial Society (Limited).

Names.	
LEEDS - -	Directors and members of the above-named society.
LONG BUCKBY -	Long Buckby Self Assistance Industrial Society.
MANCHESTER AND SALFORD EQUITABLE.	Manchester and Salford Equitable Co-operative Society (Limited).
NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY.	Mutual Shoe Manufacturing Industrial Society (Limited).
NORTHERN - -	Northern Co-operative Company (Limited).
ROCHDALE DISTRICT	Rochdale Distrive Co-operative Corn Mill Society (Limited).
ROCHDALE PIONEERS	Rochdale Equitable Pioneers.
WHITSTABLE FREE FISHERS, &c.	The Company of Free Fishers and Dredgers of Whitstable in the county of Kent.

3. Name in full, description and address of the correspondent or secretary of the institution.

ASSINGTON FARM -	John Gurdon, Tunbridge Wells.
BLAYDON - -	Thomas Spotswood, Secretary, Church Street, Blaydon-on-Tyne, County of Durham.
BRISTOL - -	James Guest, Secretary, 88, West Street, Bristol.
HULL ANTI-MILL -	William Russell, 3, Land of Green Ginger, Kingston-upon-Hull.
LEEDS - - -	James Prentis, Secretary, at above direction.
LONG BUCKBY -	John J. Howe, Long Buckby, Rugby.
MANCHESTER AND SALFORD EQUITABLE.	Joseph C. Hattersley, Cashier 17, Syndall Avenue, Ardwick, Manchester.
NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY.	Thomas Bishop, Secretary, 5, James Street, Northampton.
NORTHERN - -	William Thompson, 58, Castle Street, Aberdeen.
ROCHDALE DISTRICT	Benjamin Brierley, Secretary, Mill Hill, Spotland, Rochdale.
ROCHDALE PIONEERS	William Cooper, Cashier, Equitable Pioneers' Society, Toad Lane, Rochdale.
WHITSTABLE FREE FISHERS, &c.	John Hammond Nicholls, Foreman, Oyster Company, Whitstable, Kent.

4. Principal object of the establishment.

ASSINGTON FARM -	For raising the labouring classes out of their present depressed condition, both morally, intellectually, and physically.
BLAYDON - -	The objects of the society are, to purchase pure and wholesome food, clothing, and other necessaries for its members and others, and to carry on in common the trade of general dealers, wholesale and retail, and do all acts conducive to such objects.
BRISTOL - -	To raise by voluntary subscriptions of the members a fund for better enabling them to purchase food, firing, clothes, and other necessaries (all intoxicating liquors excepted) by carrying on in common the trade of general dealers, both wholesale and retail.
HULL ANTI-MILL -	Manufacture of flour.
KIRKHEATON -	The improvement of the social and domestic condition of its members.
LEEDS - -	Originally to provide pure flour at a reasonable price. Subsequently to provide articles of food and clothing generally, and meat.
LONG BUCKBY -	For better enabling the members to purchase, food, firing, clothes, and other necessaries.

Names.	
Manchester and Salford Equitable.	To improve the material or pecuniary means of its members, by forming a fund by monthly or other subscriptions, to purchase, food, clothing, or other necessaries at wholesale prices, retailing the same at ordinary rates to the members and the general public. To provide a safe and profitable investment for the savings of the shareholders, combining the security and facilities of a bank with the profits of a trade. This is accomplished by raising capital in one pound shares, each member being allowed to take not less than one of such shares, and not more than two hundred, payable at once, or by instalments of 2*s.* 6*d.* per quarter, and allowing interest at the rate of 5 per cent. per annum on every share so paid up, providing for the immediate repayment of non-transferable shares without deduction, and dividing the profits (as they accumulate) quarterly in proportion to the amount of each member's purchases. To promote the intellectual and moral advancement of its members by providing means for social intercourse and literary culture. To afford a field for practically working out various questions of social reform; as, for example, the fostering of habits of prudence and business among working men, open and fair trading, early closing, &c. By laying down ready money as the unalterable basis of business, commanding the best markets in purchasing, and guarding against the risk of bad debts in selling.
Northampton Industrial Shoe Manufactory.	Rule 1. "The object of this society is to carry on business for the sale of leather; also for the manufacture of boots and shoes."
Northern - -	To carry on the business of dealers in provisions and household necessaries of a pure and unadulterated kind, with the view of retailing them to the shareholders and the people generally, but more especially to the poorest of the people, at the lowest possible prices.
Rochdale District	To purchase grain and manufacture the same into pure and whole flour, meal, &c. for its members and others; and to carry on in common the trade of general dealers.
Rochdale Pioneers	To enable the members to purchase food, firing, clothes, and other necessaries, and to improve the social and domestic condition of its members.
Whitstable Free Fishers, &c.	To produce native oysters for home and foreign market.

5. By whom was it formed?

Assington Farm -	John Gurdon.
Blaydon - -	By Thomas Hall, George Pattison, Robert Ramsay, William Douglass, Thomas Vallans, Thomas Spotswood, Thomas Spotswood, junior, William Spoor, John Spoor, John Cain, Isaac Taylor, and James Eadie, 12 working men belonging to Blaydon-on-Tyne.
Bristol - -	By about 100 working men.
Hull Anti-Mill -	At the first meeting of the members of this Society, it was unanimously agreed to solicit the right worshipful the mayor and aldermen; and that John Mozeen, William Spencer, John Thornham, George Willey, and Richard Pidd, should draw up a petition, and present the same, which was done as follows:— Hull, Sept. 24th, 1795. To the right worshipful the mayor and aldermen of the town and county of the town of Kingston-upon-Hull.

Names.	
HULL ANTI-MILL—*cont.*	We, the poor inhabitants of the said town have lately experienced much trouble and sorrow in ourselves and families, on the occasion of the exorbitant price of flour; and though the price is much reduced at present, yet we judge it needful to take every precaution to preserve ourselves from the invasions of covetous and merciless men in future. In consequence thereof, we have entered into a subscription as follows: each subscriber to pay one shilling and one penny per week for four weeks, and sixpence per week for four weeks more, which is six shillings and fourpence each; for the purpose of building a mill, which is to be the subscribers', their heirs, executors, administrators, or assigns, for ever, in order to supply them with flour. But, as we are conscious that this subscription will not be sufficient to bring about our purpose, we do therefore humbly beseech your worships' advice and assistance in this great undertaking; that not only we, but our children, even yet unborn, may have cause to bless you. Signed by JOHN MOZEEN. GEORGE WILLEY. WILLIAM SPENCER. RICHARD PIDD. JOHN THORNHAM. Their worships were pleased to return for answer, that they highly approved of the idea, and also several of them gave very liberal donations towards accomplishing the undertaking, of which the society will ever retain a grateful sense; and in order to perpetuate their memory, when the whole of the articles were completed, a list of the names of the benefactors and their gifts was printed. The first stone of the said mill was laid the 7th June 1796, by Sir Henry Etherington, Baronet, and was finished the June 1797.
KIRKHEATON -	April 20th 1835. John Broadhead. Charles Rowbottom. George Hey. Samuel Oldroyd, Joseph Roebuck. and others.
LEEDS -	Many persons at a public meeting, after the detection of several notorious cases of adulteration in flour, and irregular and exorbitant charges of manufactured flour independent of the market price of grain.
LONG BUCKBY -	By about 70 working men.
MANCHESTER AND SALFORD EQUITABLE.	By a few working men.
NORTHERN - -	Peter Riddel, Hamilton Franklin, John Gaul, William Lindsay, John Bannerman, Charles Laing, Alexander Campbell.
ROCHDALE DISTRICT ROCHDALE PIONEERS	Mainly by members of Rochdale Equitable Pioneers Society.
WHITSTABLE FREE FISHERS, &c.	By some 28 or 30 working men, mostly flannel weavers, with a few of different other trades such as joiners, warpers, &c. The company has existed time out of mind, as the Whitstable Company of Dredgers up to 1793, when it was incorporated by Act of Parliament, 33 G. 3. c. 42. as the Company of Free Fishers and Dredgers of Whitstable in the county of Kent.

6. When was it established?

ASSINGTON FARM -	35 years ago.
BLAYDON - -	November 5th, 1858.
BRISTOL - -	September 1860.
HULL ANTI-MILL -	1795.
KIRKHEATON -	April 20th 1835.
LEEDS - -	1847.
LONG BUCKBY -	14th December 1858.

Names.	
Manchester and Salford Equitable.	1859.
Northampton Industrial Shoe Manufactory.	September 1865.
Northern - -	26th June 1861.
Rochdale District	1850.
Rochdale Pioneers	In the year 1844.
Whitstable Free Fishers, &c.	*See* answer to question 5.

7. Have the works or the institution ever been suspended, &c.

Assington Farm -	No.
Blaydon - -	No.
Hull Anti-Mill -	No.
Leeds - -	Not been suspended.
Northampton Industrial Shoe Manufactory.	No.
Northern - -	No.
Rochdale District	Never have been suspended.
Rochdale Pioneers	Never been suspended, but has from the first increased gradually, and continually in members, capital, and business, except at two or three periods, when there has been a depression in trades of the town, when the society has receded, as for instance during the late cotton famine, when the people had little earnings.
Whitstable Free Fishers, &c.	Never.

8. State the number of persons at present employed or received into the institution.
a. **Adult males and females.**
b. **Young persons.**
c. **Children.**
d. **And the average number in each during the 10 years.**

Assington Farm -	*a.* Adult males 57. *b.* Several boys.
Blaydon - -	Adult males 27. Females 7. Young persons, within the ages of 14 and 20, 7 males, 2 females. Children, none.
Bristol - -	1,300.
Hull Anti-Mill -	Manager, secretary, foreman, 7 millers, and 50 flour sellers employed. The society consisted on 31st Dec. 1866 of 4,016, a great number of whom consist of the labouring classes.
Leeds - -	*a.* Adult males 36. *b.* Females 2. 3,502 paid-up members, 126 partly paid up.
Long Buckby -	6 men and 1 woman, and 300 members.
Manchester and Salford Equitable.	44 men and 4 women, and 2,582 members.
Northampton Industrial Shoe Manufactory.	Adult males 21. Females 12. *a.* Females 4, within the ages of 14 and 18.
Rochdale District	Adult males 33. *a.* Males 1, within the ages of 16 and 18, and 920 members, including 62 co-operative societies.
Rochdale Pioneers	Adult males and youths 138, selling goods in the society's shops, and making clothes, shoes, &c.

Names.	
Whitstable Free Fishers, &c.	Adult males 395. Females 47. Total 442 as follows: Working freemen 325. Non-working freemen 70. Free widows 47. *c.* Working freemen 295. Non-working freemen 65. Widows 40.
	9. Are there any restrictions or qualifications for admission or employment in labour, namely,— *a.* **Age, and at what age?** *b.* **Instruction?** *c.* **Apprenticeship, or other period of service?**
Assington Farm -	Labourers of the parish of Assington.
Blaydon - -	Each applicant for admission into the society has to be proposed and seconded by two members, approved of by the committee, and confirmed by a general meeting of the members before becoming a member. Members may be employed by the society.
Bristol - -	Entrance fee, 1*s.*, deposit, 1*s.*
Hull Anti-Mill -	The purchase of a share of 25*s.* value.
Leeds - -	Conformance to rule, and payment of shares for membership, and due qualification and fitness for employment. There are no other.
Long Buckby -	The qualification for admission is by signing a declaration of adhesion to the rules of the society.
Manchester and Salford Equitable.	Good moral characters.
Northampton Industrial Shoe Manufactory.	No qualification, only an entrance fee.
Rochdale District	None whatever. Candidates are proposed and seconded by members of the society.
Rochdale Pioneers	*a.* 13 years and upwards. *c.* A few youths apprenticed from the age of 13 to 20, but mostly engaged by agreement, without binding or apprenticeship.
Whitstable Free Fishers, &c.	Sons of freemen only are admitted at 21 years of age.
	10. What is the proportion of married females employed?
Blaydon - -	There are none employed.
Leeds - -	Unmarried, 1. Widow, 1.
Rochdale District	No females employed.
Rochdale Pioneers	Only one, in the drapery department.
Whitstable Free Fishers, &c.	No females are employed, but the widow of a freeman is allowed two thirds less pay than a working freeman.
	13. Has the establishment been remunerative, or otherwise
Assington Farm -	Highly so in every way. The members considered it the best mode ever devised for the labouring classes.
Blaydon - -	We consider it very much so.
Hull Anti-Mill -	Yes.
Leeds - -	Remunerative.
Northampton Industrial Shoe Manufactory.	Yes.
Northern - -	Yes. *See* accompanying reports and balance sheets.
Rochdale District	Highly remunerative.

Names.	
Rochdale Pioneers	Remunerative, without interruption, from the establishment of the society. Profits realized from the commencement to December 1866, £187,850.
Whitstable Free Fishers, &c.	Remunerative.

14. Is any pecuniary assistance received from the Government, or from any other body not participating in the profits? If so, define its nature and amount.

Assington Farm	Capital lent by landlord without interest.
Blaydon	No assistance from anybody.
Hull Anti-Mill	No.
Leeds	No.
Northampton Industrial Shoe Manufactory.	No.
Northern	No.
Rochdale District	None received.
Whitstable Free Fishers, &c.	No assistance whatever.

15a. Enclose a copy of all rules framed for the government of the establishment, or any information which may specially refer to it, and any plans of the buildings.

Leeds	*See Rules and Notes to Question* 69. *See Appendix.*

16 Of how many partners does the establishment consist?

Blaydon	800 members.

17. Is the pecuniary responsibility of the Partners limited?

Blaydon	Yes.
Hull Anti-Mill	Yes.
Leeds	Yes; limited to number of shares held by each.
Northampton Industrial Shoe Manufactory.	Yes.
Northern	It is.
Rochdale District	Yes; to the amount invested.

18. Is the capital divided into shares or owned in parts? If so, how many, and of what amount, or in what proportions?

Blaydon	Capital divided into 1*l.* shares. Owned in shares. Total capital 5,420*l.* 17*s.* 1*d.*, or 6*l.* 15*s.* 6*d.* per member. Members can hold from one to one hundred shares.
Hull Anti-Mill	On the 31st December 1866: — 4,016 shareholders of 25*s.* each, the greatest number of whom consist of the labouring classes. No shareholder to hold more than five shares.

Names.

LEEDS - -

Capital in shares of £1 each. Each member to hold two shares, or not less. Number otherwise unlimited up to 100 shares.

	£	s.	d.
Amount of share capital -	20,107	17	1
Capital on loan - -	2,097	11	8
	22,205	8	9

NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY.

£4 each share.

NORTHERN - -
ROCHDALE DISTRICT

The capital is divided in shares, viz., 3,000*l.* of 1*l.* each. Composed, £1 shares and some loans :

	£	s.	d.
Shares - -	58,852	6	8½
Loans - -	5,531	8	2
Redemption Fund -	85	17	2
	64,469	12	0½

Independent of the profits made during the last three months ending 22d December.

19. During the last five years, what has been the average yearly profit per cent., and in what proportion, and according to what principle, has it been divided among—

a. **The partners or shareholders.**
b. **The workpeople.**
c. **Any other Persons.**
d. **Devoted to capital or other Purposes?**

BLAYDON - - The average profit for five years was 10*l.* 7*s.* per cent. The following is our mode of dividing profits. Interest on capital invested at 5 per cent. per annum. Reduction of fixed stock account and horse and cart account at 10 per cent. per annum. The remainder divided on members' purchases, and any balance that won't divide added to a reserve fund every quarter.

HULL ANTI-MILL - *a.* Shareholders only. *See Appendix* for profit.

LEEDS - - *a.* Five per cent. upon capital, and all working expenses are first paid, and the balance or profit is divided among all the partners or shareholders in proportion to their dealings. *b.* The grocery or store servants receive ten per cent. upon profits above wage, as a stimulant to exertion, saving waste, &c. *c.* No. *d.* A small and irregular surplus of real profit is reserved out of declared profits, and retained to meet accidents or unforeseen emergencies.

ROCHDALE DISTRICT *a.* Equal to about 28 per cent. *b.* Nil. *c.* Nil. *d.* Some to capital, some withdrawn.

20. What are the daily number of hours of work at the establishment, exclusive of meal-times?

BLAYDON - - 10 hours.

HULL ANTI-MILL - 10 hours.

LEEDS - - Flour mill work from six to six, except Saturday, or 66 hours per week. The stores vary a little, averaging 70 hours per week.

Names.	
Northampton Industrial Shoe Manufactory.	10.
Rochdale District	The mill works night and day nearly always.
	21. What are the average weekly wages now earned?
	a. **By a family.**
	b. **By a single workman.**
	c. **What are the highest weekly wages?**
	d. **What are the lowest?**
Blaydon - -	24*s.* per week per workman.
	a Females, highest 14*s.*; lowest, 8*s.* } according to age and
	b Youths, highest 12*s.*; lowest, 4*s.* } qualification.
	c 35*s.* *d* 18*s.*
Leeds - -	Mill hands 25*s.* 6*d.* each man. *b.* Shop or storekeeper 24*s.*; manager 100*l.* a year. *c.* 45*s.* *d.* 15*s.* Clerks from 21*s.* to 45*s.*
Northampton Industrial Shoe Manufactory.	*b.* 1*l.* 2*s.* *c.* 2*l.* 9*d.* *d.* 9*s.*
Rochdale District	24*s.* *b.* 24*s.* *c.* 28*s.* *d.* 18*s.* Excluding the manager who has 180*l.* per annum, and the assistant secretary who has 110*l.* per annum.
	22. Have any, and what, systems been adopted (payment by the piece or otherwise) to stimulate the industry of the workpeople?
Blaydon - -	Most of our workmen work by the piece. We pay the highest wages in the trade, consequently we get our work well done.
Leeds - -	Not adopted, except in grocery stores, where ten per cent. on profit is allowed to stimulate.
Northampton Industrial Shoe Manufactory.	By piece.
Rochdale District	No special system has been adopted; most part of the workpeople being members of some co-operative society where they can invest their savings.
	23. Have dwellings, at the cost of the establishment been provided for the workpeople?
	a. **Of what character?**
	b. **When erected?**
	c. **How many?**
	d. **And at what cost?**
Assington Farm -	The members live in their own cottages, as they did before.
Blaydon - -	We have only one dwelling-house, *i.e.*, for our manager, cost 150*l.*
Hull Anti-Mill -	Two dwelling-houses, one for the foreman and the other for the cartman, have been erected by the Society, and the men reside in them rent free.
Leeds - -	Yes. *a.* Superior. *b.* 1862. *c.* Two; for manager of grocery stores on premises, and for head miller for superintendence; free to miller. *d.* 400*l.* or 200*l.* each.
Rochdale District	Yes. *a.* Cottages. *b.* 1863. *c.* Three. *d.* 120*l.* each. Built for the use of engine-man, a carter, and a fireman.

Names.	
	24. What are the average weekly rents paid for such dwellings? *a.* **By a family?** *b.* **By a single workman?**
Assington Farm -	*a.* 2*s.* 2*d.* to 2*s.* 3*d.*
Blaydon - -	We do not find houses.
Leeds - -	Held for 10*l.* yearly. *a.* By grocer or one family.
Rochdale District	3*s.* 4*d.* per week. *a.* Nil.
	25. Are any, and what, regulations made and enforced relative to periodical cleansing of the dwellings and workshops?
Assington Farm -	At their option ; very clean.
Blaydon - -	Cleaned every day.
Leeds -	No specific regulations, but mill and shop, or stores, kept cleansed and in good condition on imperative grounds.
Rochdale District	The mill is cleansed and whitewashed once a year. No special regulations for the dwelling-house; their general inspection being made by the visiting committee (of two) appointed from the committee of management.
	26. Is there any co-operative society, or arrangement amongst the workmen for the purchase of food or clothing, and how is the management provided and paid for?
Assington Farm -	Yes; storeshop and brewery.
Blaydon - -	This society is a co-operative society.
Hull Anti-Mill -	No.
Leeds - - -	No ; the society itself serving that purpose.
Northampton Industrial Shoe Manufactory.	The workmen nearly all belong to a provision store. Expenses paid out of profits.
Rochdale District	Not immediately in connexion with the mill.
	27. Do the employers contribute in any way?
Blaydon - -	The employers are the society.
	28. Is the system of truck in any form adopted? *a.* **Are any payments made, except in money, to persons employed?**
Assington Farm -	No. *a.* No.
Blaydon - -	No. All payments in ready money.
Hull Anti-Mill -	No. *a.* No.
Leeds - - -	No. *a.* No.
Northampon Industrial Shoe Manufactory.	No. *a.* No.
Rochdale District	Payments all made in money.
	31. State the average duration of life of the workpeople— *a.* **Adult Males.** *b.* **Adult Females.** *c.* **Children.**
Leeds - - -	Millers 32 years generally. *a.* Our adult males average 40 years.

Names.	
	34. State what provision is made for their mental or physical recreation.
Rochdale District	Saturday half-holiday.
	36. Are any plans adopted for taking charge of the savings of the workpeople?
Blaydon - -	The society takes any sums the workmen or members may choose to invest, and the same is carried to their credit each quarter. Every 1*l.* share receives interest at 5 per cent. per annum.
Hull Anti-Mill -	None.
Rochdale District	None.
	37. How long have they been in operation?
Blaydon - -	Since the commencement of the society.
	38. What is the number of the contributors, and the average amount of their savings?
Blaydon - -	The whole of the members of the society. We save to them from 400*l.* to 600*l.* per annum.
	39. Are there any instances of savings invested in life assurance, and to what extent?
Blaydon - -	Not that we know of. Many of the members who had money in the savings bank have taken it out and invested it with us.
Northampton Industrial Shoe Manufactory.	One.
	40. Have any, and how many, of the workpeople, by means of their savings, become possessed of houses?
Blaydon - -	Not that we know of.
	41. Have they joined any Trades' Union, or formed any such union among themselves?
Assington Farm -	No.
Blaydon - -	Not that we know of.
Hull Anti-Mill -	No.
Leeds - -	No occasion.
Northampton Industrial Shoe Manufactory.	No.
Rochdale District	Some of the men have joined a Trades' Union.
	42. Have such unions had any, and what influence upon their hours, or modes of labour, or their rate of wages?
Blaydon - -	Could not say.
Hull Anti-Mill -	None.
Leeds - -	None.
Rochdale District	Not any influence.

Names.	**43. Have there been any strikes among the work-people?**
Blaydon - -	No.
Hull Anti-Mill -	None.
Leeds - -	None.
Northampton Industrial Shoe Manufactory.	No.
Rochdale District	Never.

	46. Have any Trades' Unions interfered with the management of the establishment? And if so, give all particulars.
Hull Anti-Mill -	No.
Leeds - - -	No.
Rochdale District	No interference from any Trades' Unions.

	47. Has the establishment given rise to any hostile combinations among the manufacturers or work-people of the locality?
Blaydon - -	Nil.
Hull Anti-Mill -	None since its first formation, when the millers endeavoured by an action at law to put down the Society, but which the Society successfully resisted.
Leeds - -	Not otherwise than at first commencement, the other corn millers united to undersell us, but soon failed, the manufacture of flour being reduced from that time permanently until now. See ** page 7 of pamphlet referred to in Appendix.
Rochdale District	No.

	48. Has it had any, and what, effect upon the poor's rate of the parish?
Assington Farm -	Much in every way. No member receives anything, and there are now five or six widows partaking their late husbands' shares.
Blaydon - -	Nil.
Leeds - -	It has, but we cannot possibly trace or prove it definitely. Beneficial in reducing the poor rates by lowering price of flour and increasing savings to members.
Northampton Industrial Shoe Manufactory.	No member has been chargeable to the parish.
Rochdale District	The benefits of the society being so widely diffused the effect upon the poor's rate can scarcely be ascertained.

	51. What is its gross annual income, and whence derived?
Blaydon - -	Gross annual income, 31,746*l.* 5*s.*: grocery, flour, and provisions, 17,994*l.* 19*s.* 2*d.*; shoe-making, boot-making, and clogging, 2,060*l.* 2*s.* 6*d.*; drapery, millinery, and tailoring, 4,670*l.* 9*s.* 2*d.*; butcher's meat, 6,381*l.* 4*s.* 8*d.*; horses sold, 57*l.* 10*s.*; proceeds of annual social meeting, 17*l.* 4*s.* 5*d.*; contributions of members, 548*l.* 12*s.* 7*d.*; entrance fees of new members, 16*l.* 2*s.* 6*d.*

Names.

LONG BUCKBY - Gross annual income 980*l.* 1*s.* 10¼*d.*, derived from the businesses of grocering, butchering, baking, and coal.

ROCHDALE PIONEERS Its income from goods sold and cash received for same in the year ending December 1866, was 249,122*l.*; receipts from this source increase from year to year.

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52. What are the annual expenses of management? *a.* And of collection, where subscriptions are paid?

BLAYDON - - Including wages, carriage, &c., 1,227*l.* 5*s.* 4*d.*

LONG BUCKBY - 322*l.* 7*s.* 9*d.* *a.* Nil.

ROCHDALE PIONEERS 7,795*l.* 4*s.* 4*d.* including wages, rents, and all incidentals for the year 1866. Nine grocery and branch shops belong to the society, and rents are to pay for six places of business only.

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53. What is the number of paid officers?

BLAYDON - - 13.

LONG BUCKBY - Three.

NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY. None.

ROCHDALE PIONEERS Ten committee-men are allowed on an average 1*s.* 6*d.* per week for attending meetings once a week.

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54. And their salaries?

BLAYDON - - One secretary, 91*l.* per annum; one treasurer, 12*l.*; nine committee men, 27*l.*; two auditors, 12*l.*

LONG BUCKBY - President 1*l.* 6*s.* per annum, secretary 40*l.*, treasurer 10*l.* 8*s.*

NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY. The manager receives journeymen's wages.

ROCHDALE PIONEERS No salaried officers. The employés only receive weekly wages or salaries.

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55. The conditions on which the inmates are commonly received, and the average duration of their stay in the institution?

ROCHDALE PIONEERS They get proposed and seconded by members, and pay 1*s.* 3*d.*, for which the candidate receives a copy of the society's rules. The candidates are admitted at each monthly meeting of the members, after which they pay a deposit of 1*s.* and not less than 3*d.* per week until their five 1*l.* shares are made up. May pay subscriptions in advance, and hold any number of shares in the society not exceeding 100*l.*

Names.	**59. Is there any provision made to provide for or encourage—** *a.* **Sickness.** *b.* **Education.** *c.* **Religious teaching.** *d.* **Recreation.** *e.* **Temperance.**
Assington Farm	*a.* Yes. *b.* National school. *c.* Yes, in every way.
Hull Anti-Mill	*a.* None. *b.* None. *c.* None. *d.* A week's holiday annually. *e.* None.
Leeds	*a.* None. *b.* None. *c.* None. *d.* None. Millers allowed half holiday on Saturday. *e.* None.
Long Buckby	*a.* Donations to Northampton Infirmary during the past year, 4*l.* *b.* During the past year 13 guineas has been expended.
Blaydon	The society makes no provision for medical attendance, nor does it give any allowance in case of death. Most of the members are in one or more clubs for that purpose in the district. Every person in the society's employment who works for weekly wages is allowed one working day every week for mental improvement or physical recreation. The society only employs persons of temperate habits.
Northampton Industrial Shoe Manufactory.	All males are members of benefit societies.
Rochdale District	*a.* The workpeople have formed amongst themselves a society (small 'tis true) allowing each when sick 6*s.* per week. *b.* None. *c.* None. *d.* Saturday half holiday. *e.* None.
Rochdale Pioneers	*a.* Not applicable. *b.* A fund is provided by the application of 2½ per cent. from the net profits, divided quarterly, to support a library of at present over 6,000 volumes, and 11 news and reading rooms at different places in or near the town where the society carries on business; the sum devoted to this object amounts to over 700*l.* per annum. *c.* None, except such as they may learn from the books and papers which they may read. *d.* None at present, except such as they may derive from playing at chess and draughts, and the use of stereoscopic views, microscopes, telescopes, &c., but it is intended shortly to introduce gymnastics and other amusements. *e.* No special arrangement to promote temperance, but the news' rooms and library, which are free to members and their families, exercise a powerful and beneficial influence in promoting sobriety. It has been said that this society has done more to remove drunkenness from this town than all the advocates of teetotalism have been able to effect. The sum of 493*l.* is the average to educational purposes.

	61. By whom, and under what control, are the funds managed?
Long Buckby	By the committee of management.
Northampton Industrial Shoe Manufactory.	The money is all invested in the business, except what balance may be at the bank.
Rochdale Pioneers	By a treasurer and a cashier, subject to the supervision of the committee of management and auditors appointed by the members.

Names.	**62. Have you any other information to offer on this subject, or in regard specially to your establishment?**
LONG BUCKBY - ROCHDALE PIONEERS	Long Buckby is a village containing 2,500 inhabitants. This society does its business in the buying and selling of goods for ready money. On December 18th, 1866, it had 6,246 members, and a capital or assets of 99,908*l.*

	64. Names of the persons, with their offices, by whom the affairs of the society are managed.
BLAYDON - -	James Eadie, President; William Douglass, Treasurer; Thomas Spotswood, Secretary; William Turner, Isaac Clark, Samuel Robson, James Jenkins, Edward Beattie, William Bateman, John Cheeseman, and Isaac Taylor, Committee of Management; William Henderson and John Nicholson, Auditors.*
BRISTOL - -	J. G. Holt, President. John Edwards, Manager. Samuel Moore, Treasurer. James Guest, Secretary. *Committee-men:* Edward House. John Nicholas. William Mackay. John Creed. William Newcombe. John Davy. William Watkins. Alfred Horton.
HULL ANTI-MILL -	John Dibb, President; W. R. Christie, Vice-President; James Plaxton, Treasurer; and 18 Committee-men, who retire annually.
KIRKHEATON -	Henry Hey, *President.* James Peace, *Secretary.* Ephraim Poole, *Salesman.* Thomas Schofield, *Treasurer.*
LEEDS - -	John Speed, President; James Prentice, Secretary; and 11 Directors chosen annually.
LONG BUCKBY -	Charles Wood, President. James Hill Treasurer. John York Howe, Secretary. *Committee:* William Cliff. David Newitt. Charles Muscott. Isaac Newton. George Davis.
MANCHESTER AND SALFORD EQUITABLE.	J. M. Percival, President; Henry Cuss, Treasurer; W. R. Barrett, Honorary Secretary; and 11 others, who form the Board of Directors.
NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY.	William Curtis, Manager. Thomas Gibson, Treasurer. Thomas Bishop, Secretary. Edmund Hemming, President. *Committee-men:* William Gibson. Thomas Rowe. Edward Stamp. Edmund Hemming, jun. Joseph Gilbert.
NORTHERN - -	*Directors.* Isaac Forsyth. George Rae. John Bannerman. Charles Laing. Andrew Baxter. William L. Ligertwood. Henry Brechin. Alexander Kidd. Hamilton Franklin. George Mackie. William Hazlewood. Alexander Campbell. Peter Riddel, *Treasurer.* William Thomson, *Secretary.* William Mitchell, *Manager.*

* Although not directly connected with the society in a pecuniary point of view, there are managed by the same gentlemen a library, lecture room, reading-room, classes, and all the agencies of an educational institution. Lectures, public meetings, concerts, and entertainments for the moral, intellectual, and social improvement of the members and inhabitants are also given under their auspices.

Names.	
Rochdale District	By the committee of management, composed of 11 members viz., John Walton, President; Thomas Barlow, Treasurer; Benjamin Brierley, Secretary; and eight other committee-men, Robert Mills, Thomas Laycock, Isaac Tweedale, Samuel Law, James Meadowcroft, Benjamin Butterworth, and Butterworth Cockrill; the duties of whom are set forth in the societies rule at pages 9, 10, 11, 12, and 13. A manager is employed (John Fothergill) under whose supervision the whole of the society's operations are transacted, and purchases all grain, sells all flour, &c. &c., and generally fixes the price of all articles.
Rochdale Pioneers	By a committee of 11 persons chosen by and from amongst the members.

68. What special means are adopted for securing the object for which the Society was formed?

Blaydon	Ready money dealing, both in buying and selling goods. By doing so the society makes a profit of over 10 per cent., and divides the same amongst the members in proportion to their purchases at the society.
Hull Anti-Mill	Selling the manufacture at a market price, and dividing the profits annually amongst the shareholders, according to the quantity consumed in each member's family.
Kirkheaton	By carrying on the retail trade in the necessaries of life, and by dividing the profits among its members. By meeting together for friendly and social conversation and improvement. By the employment of such of its members in agricultural labour as are out of work at their regular employment.
Leeds	Manufacturing flour on our own premises, under the direction of the elected managers, and of retailing it through our own paid and appointed shopkeepers or agents.
Long Buckby	By the capital subscribed by the members.
Manchester and Salford Equitable.	Enrolled under the Industrial and Provident Society's Act of 1862, and capital raised in one pound shares, each member being allowed to take not less than one of such shares, and not more than 200, payable at once, or by instalments of 2*s*. 6*d*. per quarter, and allowing interest at the rate of 5 per cent. per annum.
Northampton Industrial Shoe Manufactory.	We sell boots in a retail shop of our own in London; also solicit orders from the general public.
Northern	The Company having a manager of thorough experience in testing the quality of these goods. 2. The company dealing only with houses of unquestionable repute. 3. By buying for ready money only, and in large quantities, thereby being supplied at the minimum cost.
Rochdale District	By buying the best grain, and grinding the same by the most improved machinery.

Names.

BLAYDON - -

69. Give a short sketch, with statistics of its progress, development, and present prosperity.

Date.	Number of Members.	Subscriptions on account of Shares.	Amount of Share Capital.	Amount of Business.	Amount of Profit.	Disposal of Profits.				Reserve Fund.	Profits Withdrawn.
						Interest.	Dividend.	Reduction of Fixed Stock and Horse and Cart Account.			
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1859 -	69	156 4 8½	181 1 6	1,068 5 3	40 12 6½	4 10 3	32 2 6	3 19 9½	—	—	5 2 9
1860 -	175	760 11 10	891 0 11	3,226 8 8½	278 17 9	18 15 3	215 12 3	44 10 3	—	—	70 9 1
1861 -	255	384 6 5	891 13 8	7,407 3 5	674 4 7	55 7 6	572 7 1	46 10 0	—	—	517 6 0½
1862 -	344	940 5 3	2,686 4 4	11,192 13 6	1,000 9 11	82 13 0	865 14 1½	52 2 9½	—	—	817 4 3½
1863 -	626	670 17 5	3,898 8 10½	17,466 4 0	1,989 14 11½	132 6 9	84 8 3½	150 2 11½	—	22 16 11½	1,274 1 0
1864 -	599	522 13 1	4,689 6 0	21,696 13 8	2,174 5 1½	179 1 9	1,826 9 8½	167 1 8½	5 0 0	5 17 4	2,109 17 5
1865 -	728	474 12 7	5,674 2 5	25,515 5 6½	2,815 0 9	214 14 6	2,408 13 11	167 5 0	—	1 11 11½	1,734 5 2
1866 -	816	548 12 7	5,420 17 1½	31,106 15 6	3,097 4 8½	215 2 3	2,697 19 6	130 2 9	42 9 5	4 19 11	3,705 2 10½
TOTAL -				118,679 9 7	11,871 0 4	902 11 3	10,303 7 4½	761 15 3	47 9 5	35 6 2	10,233 8 7½

Names.

BRISTOL - -

Statistics of the Society.

Year ending Sept.	Sales.	Members' Contributions.	Capital.	Interest.	Dividend.	Average Dividend.	Bonus paid to Non-Members.
	£	£	£	£	£	*s.* *d.*	
1861	7,668	1,187	1,239	21	405	1 5	11
1862	16,057	1,051	2,082	78	591	1 0½	66
1863	17,037	736	2,518	110	583	1 0¾	127
1864	16,377	1,169	3,372	134	638	1 3¾	99
1865	18,129	1,614	4,606	183	818	1 4½	88
1866	28,885	2,495	6,687	263	1,487	1 5½	98
	104,153	8,252		789	4,522		489

HULL ANTI-MILL -

The "Anti-Mill Society" was originally instituted in 1795 for the purpose of erecting a mill to supply the members with flour; the first stone was laid on the 7th June 1796, and the mill was completed on the same date in the following year. The shares were nominally of the value of 1*l.* In the year 1856 the rules were re-constructed, and the society registered as the "Hull Anti-Mill Industrial Society," under the provisions of the statute 15 & 16 Vict. c. 31, by which the society was enabled to supply flour to the public as well as its members, the profits being divided amongst the members in proportion to the quantity of flour they had consumed. The value of the shares in 1861 was declared to be 2*l.* 10*s.* In the year 1862 it became necessary again to remodel the rules in consequence of the previous Act relating to industrial and provident societies having been repealed and a new Act passed in lieu thereof, by which greater freedom of action was granted, together with limited liability; and with a view to place the shares within the means of working men they were reduced to a fixed value of 1*l.* 5*s.* each, the then present shareholders receiving two shares for the one they had previously held, which shares were also made by the new law transferable. A certificate of registration has been given by J. Tidd Pratt, Esq., in accordance with the "Industrial and Provident Societies' Act, 1862." During the past five years the net profits have been as under:—

Year.	Net Profit.	Dividend.	Bonus.
	£ *s.* *d.*		*d.*
1862	2,000 7 0	5 per cent.	2
1863	2,947 2 7	5 „	2½
1864	2,697 14 5	5 „	1⅞
1865	2,231 18 10	5 „	1½
1866	3,453 19 2	5 „	2¼

per stone on flour consumed by each member's family.

KIRKHEATON -

See the accompanying short sketch with first and last balance sheet.

LEEDS - -

For a sketch of the origin, progress, and working, *see* the pamphlets herewith numbered 1 and 2, with the statistics carried down to the present. Reports also added, such as at hand.

Names.

LEEDS—*cont.*

Profit and Loss Account of the Transactions of the Society from October 1847 to 1st December 1856.

	Funds expended.	Business done.	Profits.	Bonuses withdrawn.	Capital.
	£ s. d.	£ s. d.	£ s. d.		£ s. d.
1847	1,969 16 3½	5,000 2 5	43 15 7¼	1st & only loss on 3 months' wking. & exps. of founding the society.	1,926 0 7½
1848	628 19 4½	22,058 6 4	37 2 6		2,734 6 0½
1849	347 6 1½	22,926 16 4	135 13 2		3,075 5 6½
1850	208 12 7	26,126 12 8	506 15 4		3,925 5 6½
1851	214 7 8½	26,789 16 2	253 2 1½	£ s. d.	4,392 15 4½
1852	305 17 0	34,375 5 11	1,524 2 2	678 16 6	5,543 18 1
1853	71 0 11½	58,382 11 6	4,387 1 2	779 3 3	9,222 17 0½
1854	70 17 10	64,073 16 6	1,440 19 2½	2,833 16 3	7,990 17 9½
1855	50 7 0	71,947 18 1	800 0 0	1,000 5 6	7,937 0 7½
1856	50 16 10 withdrawls. above contributns.	60,873 4 9	793 2 4	654 10 2	7,842 18 10½
1857	169 8 2	68,343 2 3	1,805 8 0	654 13 11	8,823 4 9½
1858	35 0 6	53,836 10 8½	1,450 12 0	1,545 8 2	8,788 4 3
1859	799 11 9 contributns. over withdrawls.	54,752 13 8½	2,207 5 8	2,207 5 8 added to capital.	11,795 1 8

	Business done.	Profits.	Bonus paid.	Capital.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1860	82,545 4 0	3,360 18 11	2,167 5 11	14,655 17 3
1861	108,307 16 4	1,883 6 6	3,326 4 2	19,890 10 8
1862	88 421 2 5	1,252 13 9	1,767 19 5	19,799 9 2
1863	70,414 4 2	1,613 15 4	845 17 0	19,309 2 6
1864	73,826 9 11	2,490 9 6	2,883 18 5	21,361 9 7
1865	79,139 19 4	2,386 6 6	1,906 18 4	21,652 16 7
1866	103,910 13 9	4,919 7 3	3,885 14 7 to declare.	22,205 8 9

LONG BUCKBY -

The society commenced with about 70 members, and has gradually increased to the number of 300. The progress and prosperity will be seen by the figures below :—

	£ s. d.
Amount of business done the first year -	2,809 11 8
Amount of profit on the same - -	194 5 3
Amount of business done the third year -	5,024 9 3
Amount of profit on the same - -	455 5 11
Amount of business during the past year -	7,655 17 2
Amount of profit on the same - -	657 14 1

The society having only one copy of each report in their possession cannot enclose one in this form.

MANCHESTER AND SALFORD EQUITABLE.

The society was originated in 1859 by a number of working men who had been members of a mutual improvement class. Business was commenced with a capital of 100*l.*; the number of members at the end of the first quarter was 170, and at the termination of the first year upwards of 600. Prosperity marked the undertaking, and new shops had to be opened in various localities. In 1861 a loss occurred in one of the departments of the business, and unfortunately soon after this the cotton famine commenced, and a large number of members were deprived of the means of purchasing. Still the society

Names.

MANCHESTER AND SALFORD—*cont*

continued to progress, and during the last two years has more than doubled its trade, as may be seen by the following statistical table.

Year.	Goods sold.	Working Expenses.	*Interest paid on Capital.	Profit after allowing Interest.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1859	676 11 2	47 8 9	1 7 9	24 15 10
1860	24,925 7 2	1,083 2 1	70 6 0	1,316 6 11
1861	46,727 8 1	1,786 19 6	220 14 3	1,918 10 11†
‡1862	31,804 15 7	1,545 3 6	258 0 9	1,775 13 4
‡1863	24,405 1 0	1,358 15 8	286 5 3	1,947 12 4
‡1864	27,783 11 2	1,591 13 10	349 5 9	2,004 5 5
1865	44,864 8 0	2,598 2 1	526 11 9	2,621 14 3
1866	55,197 2 5	2,975 0 9	714 2 2	3,834 15 11
	256,384 4 7	12,996 6 2	2,426 13 8	15,443 14 11

* 5*l.* per cent. per annum allowed on all paid-up shares.
† Heavy losses this year.
‡ The period of the great cotton famine in Lancashire.

NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY.

We commenced with 10 members and a capital of 50*l.*; after taking stock, July 1867, we had made net profit of about five per cent. At last stocktaking, January 1867, owing to losses, we could not safely declare a dividend. We consider our present condition to be good, as we have overcome difficulties which will not again be in our way, having gained by experience. Our present share capital is 2*l.*

NORTHERN - -

The nominal capital of the company is 3,000*l.* divided into shares of 1*l.* each, of which 1,716*l.* has been paid up. These shares are payable by instalments of threepence each per week, thus placing the benefit of the company within reach of the very poorest of the people. Interest at 5 per cent. per annum is allowed on paid-up capital. The profits remaining, after interest as above and all expenses are provided for, are divided among the shareholders in proportion to their purchases, the vouchers for the purchases being metallic checks, which are given over the counter as each purchase is made. Non-shareholders are allowed to participate in the profits to the extent of sixpence per pound sterling.

Statement of the Number of Shareholders, &c. of the Weekly average and annual Amount of Sales, and of the Profits divided during each of the five Years preceding 30*th June* 1866.

Year ended 30th June.	No. of Shareholders.	No. of Shares allotted.	Share Capital paid up.	Average Weekly Amount of Sales.						
				Central Store.	Branch No. 1.	Branch No. 2.	Branch No. 3.	Bakery.*	Clothiery Branch.	Total.
			£	£	£	£	£	£	£	£
1862	400	561	413	120	—	—	—	—	—	120
1863	554	724	591	161	—	—	—	17	—	162
1864	709	828	748	162	66	—	—	33	—	242
1865	1,038	1,373	1,144	161	76	88	—	45	—	338
1866	1,405	1,899	1,565	137	88	93	77	80	28	463

* The amounts for the bakery are exclusive of the value of bread sent to the company's other shops.

Names.

NORTHERN—*cont.*

Year ended 30th June.	Gross Amount of Sales for Year.							Profits divided amongst Shareholders.		
	Central Store.	Branch No. 1.	Branch No. 2.	Branch No. 3.	Bakery.	Clothiery Branch.	Total.	Interest on Capital.	Dividend or Purchases.	Total.
	£	£	£	£	£	£	£	£	£	£
1862	6,268	—	—	—	—	—	6,268	14	326	340
1863	8,412	—	—	—	34	—	8,446	25	490	515
1864	8,445	2,390	—	—	1,745	—	12,580	32	937	969
1865	8,370	3,937	2,921	—	2,344	—	17,573	46	1,254	1,300
1866	7,123	4,596	4,864	2,843	4,170	477	24,076	70	1,359	1,429

ROCHDALE DISTRICT

This society was established in the year 1851 at a place called Small Bridge, a mile and a half from Rochdale. The members constituting the corn-mill society are mainly members of other co-operative societies, through the medium of which the produce of the mill is distributed to the consumers residing within a radius of about 15 miles. The society erected a new mill within the borough of Rochdale in the year 1855, and since then additions have been made to it. A view of whole enclosed. The mill at its commencement in 1850 had five pairs of stones at work; the business of the society was 85 sacks of flour per week, which fell to 75 sacks per week on one of the second quarter's business. Dividends are declared quarterly. The society in its early efforts had great difficulties and prejudices to overcome. The society had at first too small a capital to enable it to carry on the corn-milling business, thereby being necessitated to get grain upon credit from corn factors who had sufficient confidence in its stability. The prejudice the society had to contend against was this—the people had been used for a long time to an adulterated flour, and when they had supplied to them an article free from adulteration the flour had not that white appearance the adulterated one possessed, and therefore not so pleasing to the eye, but containing, nevertheless, much more nutriment. Time has (some years ago now) grown down the dislike of the people to a flour free from deleterious ingredients, viz., alum, gypsum, &c. The corn-mill society has at present (1867) 17 pairs of stones at work, capable of manufacturing 1,700 sacks of flour per week; the actual supply to the members averages, for the last year, 1,318 sacks per week. The accompanying tabular statement of the Rochdale Corn-mill Society fully shows its development. The objects of this society are to provide its members, and those who trade with it, with pure, wholesome, unadulterated meal and flour. The capital of the society is ample, and enables the manager to go into the market and buy the best grain, which is ground by machinery of the first principle. The committee test the quality of the flour from time to time to see that it is equal, if not superior, to any other miller's. The profits of the trade are divided amongst the members in proportion to the amount of money expended, having first paid interest upon share capital at the rate of 5*l.* per centum per annum.

Names.	Year.	Funds.	Business.	Profits.
		£	£	£
Rochdale District. —*cont.*	1850		None.	
	1851	2,613	*	†None.
	1852	2,898	7,636	336
	1853	4,143	16,679	208
	1854	3,971	22,047	557
	1855	4,626	28,085	1,376
	1856	8,784	38,070	773
	1857	10,701	54,326	2,007
	1858	14,181	59,188	3,153
	1859	18,236	85,845	6,115
	1860	26,618	133,125	10,164
	1861	29,600	166,800	10,000
	1862	30,264	155,696	8,227
	1863	41,714	152,492	10,138
	1864	46,739	141,309	7,806
	1865	55,261	148,533	12,511
	1866	72,020	224,122	18,163

* Account mislaid. † Loss £421.

70. In what respects does the society fulfil the conditions on which a claim can be submitted on its behalf to the international jury, in accordance with the principles laid down at their first meeting?

Blaydon - - It encourages the habits of providence, thrift, and independence. It does away with the baneful system of credit, and by familiarising its members with the principles of business it has a tendency to prevent recurrence to those disastrous collisions that too frequently take place between labour and capital.

Bristol - - The committee do not consider that the society has a ground of claim for reward or distinction. One practice is, perhaps, peculiar to itself, it allows members to withdraw, *on demand*, a part or the whole of their investment, thus obviating the necessity of hoarding money, and offers an inducement to deposit cash as it accumulates, and in the case of sickness, death, or other emergency provides immediate pecuniary relief.

Hull Anti-Mill - By having a free and spontaneous initiative, and at the same time a sustained progressive prosperity.

Kirkheaton - The rise and progress of our society has been an entire, free, and spontaneous iniative, and not of legislative enactment. The society was established in April 1835, and from that day to the present has maintained its position without any suspension or digression, carrying on the retail trade of grocers, drapers, and farmers, and general provision dealers.

Leeds - - On the ground—1st. of being formed spontaneously for providing pure food and good clothing at reasonable charges, and it has fulfilled that completely ; 2d. it is continuously successful and prosperous ; 3d. begun and maintained by the working classes almost solely ; 4th. has improved the operations of trade to the public generally in ensuring pure articles at less price than before ; and, 5th, has been a great educational institution of instruction to the members and directors in general, giving them knowledge, habits of business, and practical insight into the relations of capital, labour, and on the value and operation of wealth as a means of social elevation.

Names.

LONG BUCKBY -

Since its commencement the society has divided the sum of 3,554*l.* 14*s.* 10*d.* amongst the members, who are chiefly working men, which in times of distress and want of employment has been a great benefit to them; it has to some extent lowered the poor rates of the parish.

MANCHESTER AND SALFORD EQUITABLE.

The society is doing a great amount of good in Manchester and Salford, and the rules are so framed that the poorest may join without difficulty. The payment of 1*s.* entrance fee entitles them to all the benefits of the society, and if they purchase their goods at the stores and allow their profits to remain they need not pay another penny. Thus, if a person paid his entrance fee at the commencement of the society, and expended 1*l.* per week up to the present time, he would be entitled to receive 40*l.* as his share of the profits, and this without any effort of his own, all that is required is simply to purchase his goods at the stores. The following examples taken from the members' ledger shows the amount of profit realized by individuals who have allowed their profits to accumulate.

Pass-book Number.	Time of Entry.	Subscription paid in at Time of Entry only.	Profit and Interest, Dec. 1866.
		£ *s.* *d.*	£ *s.* *d.*
16	June 1863 -	0 1 0	8 12 8
530	March 1863 -	2 0 0	13 1 2
544	Dec. 1861 -	5 0 0	18 17 8
945	Dec, 1861 -	0 1 0	11 16 2
1,031	Dec. 1860 -	1 0 0	30 15 8

NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY.

As far as it can it fulfils all the conditions.

NORTHERN - -

1. In respect of the company habituating its shareholders and the people generally to the system of ready money payments. 2. In respect of fostering provident habits among them by the company taking payment of their shares in such small sums as threepence per week. 3. On economical grounds, in respect of the company doing away with at least one of the middle men or merchants who interpose themselves between the producer and consumer, the process of distribution being thereby simplified and cheapened.

ROCHDALE DISTRICT

The Rochdale District Co-operative Corn-mill Society, limited, begs respectfully to submit to the "International Jury" its claim to consideration on the following grounds:—1st, promoting the physical well-being of all connected with its operations as members; 2d, materially by the large profits which are divided amongst its members, pecuniarily in many cases, and adding in some little to the comforts of their condition, being now supplying fine flour to 62 co-operative societies, numbering over 12,000 members.

71. What are the qualifications for admission to the Society? Or for employment by it?

BLAYDON - -

Any person can be admitted as a member by signing a declaration of their readiness.

KIRKHEATON -

Good morals, sober, and industrial habits.

NORTHERN - -

Good moral character so far as can be ascertained by the directors.

Names.	
	72. Of how many members does the Society consist?
Kirkheaton -	54.
Northern - -	Of 1450.
	73. How many workmen, or women are employed by it?
Kirkheaton	3 men and 2 women.
Northern - -	34 men and boys and 2 women.
	74. Have the workmen a share in the profits?
Blaydon - -	Yes.
Kirkheaton -	If members, not otherwise.
	75. Are there any sources of profit besides the annual dividend? *e.g.* by shop tickets or other advantages of a similar kind.
Blaydon - -	Members get their goods at a cheaper rate.
Hull Anti-Mill -	Yes, by bonus tickets on flour purchased by each shareholder.
Kirkheaton -	No. We pay our dividends according to the situation of the funds of the society, always taking special care to keep a sufficient amount of capital in hand to carry on the affairs of the society.
Leeds - -	No.
Long Buckby -	No other source of profit beside the dividend.
Manchester and Salford Equitable.	Dividends are made up quarterly.
Northampton Industrial Shoe Manufactory.	No.
Northern - -	No.
Rochdale District	None.
	76. By whom is the scale of wages regulated?
Blaydon - -	By the members.
Hull Anti-Mill -	Committee of management.
Kirkheaton -	By a general meeting of the society.
Leeds - -	By the directors solely.
Long Buckby -	By the members at the general meetings of the society.
Manchester and Salford Equitable.	By boards of management, consisting of members of the society.
Northampton Industrial Shoe Manufactory.	There is no scale of wages, but a general rate of wages is adopted by the masters.
Northern - -	Not applicable.
Rochdale District	The committee of management.
	77. By whom, and in what manner, are disputes as to wages, or other general questions affecting the well-being of the society, settled?
Blaydon - -	By the members; but there have been no disputes in connexion with the society.

Names.	
Bristol - -	Arbitration, but no instance in which a case has been referred.
Hull Anti-Mill -	By arbitration.
Kirkheaton -	By a general meeting of the society, or by rule 24.
Leeds - -	By the directors, subject to reference to arbitrators. *See* rule 5, clause 7.
Long Buckby -	By a majority of the members at the general meetings.
Manchester and Salford Equitable.	By board of management.
Northern -	Not applicable.
Rochdale District	By the committee of management all questions are settled, no real dispute having arisen which has called for any special settlement.

78. How far are agricultural and manufacturing pursuits combined among members of the society?

Kirkheaton -	As we occupy 20 acres of land our society employ such of its members as are out of employ at their regular business at such remunerative wages as the society agree to on application.
Leeds - -	Not.
Long Buckby -	They are chiefly shoemakers and agricultural labourers.
Northern - -	Not applicable.
Rochdale District	A large number of farmers are members of this society, from whom they buy offals, &c., and receive profits in proportion to the purchases.

79. Has the society been the means of obtaining for its members, or those connected with it, the ownership of a house, or of rural premises?

Kirkheaton -	The principle of our society has been the accumulation of capital, the shares of the original members have arrived at 75*l.*, and several of those members have withdrawn from the society and established themselves as farmers, and built freehold houses, &c.
Leeds - - -	Not hitherto contemplated.
Long Buckby -	The society are owners of the premises they occupy for carrying on their businesses, which were built at a cost of 700*l.* and upwards.
Manchester and Salford Equitable.	Cannot say.
Northampton Industrial Shoe Manufactory.	Two.
Northern - -	Not applicable.
Rochdale District	Not directly.

80. Are there any relief funds, asylums, or life assurances, connected with the society? and is any provision secured in case of future need?

Blaydon - -	There is a relief fund amongst the members.
Leeds - - -	No.
Long Buckby -	The profits are allowed to accumulate, and are withdrawable in case of sickness or distress down to 1*l.*
Manchester and Salford Equitable.	Not directly, but the society gives an annual subscription to the Manchester Royal Infirmary and also to the Salford Dispensary.

Names.	
Northern - - Rochdale District	No. Donations and subscriptions are given to the following institutions: Rochdale Dispensary, Rochdale Ladies Charity, Manchester Royal Infirmary, Manchester Eye Institution, Manchester Blind Asylum, and Manchester Deaf and Dumb Institution.

Copies of the signatures of magistrates and other persons who certify that they are well informed of the management of the establishment against which their names stand and that they believe the foregoing statements to be true.

Blaydon - -	Jos. Cowen, Stella Hall, J.P. for the county of Durham, M.P. for Newcastle-on-Tyne; Ph. Brown, M.D., Member of Local Board; Jos. Cowen, jun., Chairman of the Blaydon Local Board.
Bristol Co-operative Society.	Not signed.
Co-operative Farm Assington.	Not signed.
Hull Anti-Mill Industrial Society.	Thomas Ward, J.P. for the Borough of Hull; Henry J. Atkinson, ex-Mayor, and J.P. for Hull.
Kirkheaton -	Not signed.
Leeds Industrial Co-operative Society.	Nicholas Greenwell, B.A., Vicar of St. Barnabas, Holbeck, Leeds; Reginald D. Marshall, J.P. for West Riding, County of York; John Holmes.
Long Buckby -	Charles A. Yate, Vicar of Long Buckby; ——— Henley, Magistrate for Northamptonshire.
Manchester and Salford Equitable Co-operative Society.	Abel Heywood, J.P.; John Watts, Ph. D.
Northampton Industrial Shoe Manufactory.	William Williams, Justice of the Peace for the Borough of Northampton; Charles Wickens, Clerk to the Borough Magistrates at Northampton.
Northern - -	A. Nicol, Lord Provost and Chief Magistrate of Aberdeen, G. Donald, Magistrate.
Rochdale District Co-operative Corn Mill.	Wm. N. Molesworth, M.A., Vicar of Spotland, Rochdale; J. Chadwick, Magistrate for the County of Lancaster.
Rochdale Equitable Pioneers Society.	John Robinson, Mayor of Rochdale; John Bright, M.P., Rochdale; W. N. Molesworth, M.A., Vicar of Spotland, Rochdale.
Whitstable Company of Free Dredgers and Fishers.	Robert J. Morris, Incumbent of Whitstable; Wm. Plummer, J.P. for County of Kent and Borough of Canterbury.

17.

III.—CO-OPERATIVE SOCIETIES.

APPENDIX GIVING AN ACCOUNT OF THE SUPPLEMENTARY INFORMATION SENT IN WITH EACH RETURN.

Names.

Assington Farm -

1. Extract from "The Co-operator."
2. Balance Sheet of Storeshop.

Blaydon-on-Tyne -

Sir,

I send you herewith a report of the Blaydon Industria Society.

The statistics that are given in the report have reference to that association alone. In connection with it, however, there are other societies having similar objects in view. There are a lecture room, class rooms, library, reading room, and all the agencies of an excellent educational institution in the village; and altho' there is no direct union between it and the industrial society, the two associations are managed and promoted by the same parties, and are in a sense identical.

Besides this educational institution there are a prosperous Sick Benefit Society and two Building Societies. The objects of the two latter societies are to afford facilities to working men of getting houses, of a convenient and commodious character, of their own.

I believe that when the population of the place is taken into consideration, it containing little more than 2,000 people, it will be found that there is scarcely a village of like size in the country that has so many and so successful agencies at work, for the moral, mental, and social advancement of the people, as there are in the village of Blaydon.

The Co-operative Store, altho' not the largest in the country, as the population amongst which it exists is limited, has been proportionately more successful than any other association of the kind that I know of in the country.

Yours respectfully,
for Thos. Spotswood,
J. C. J.

Henry Cole, Esq., C.B.

2. Plan of buildings.
3. Rules of Mechanics Institute and catalogue of library.
4. Annual Reports and Balance Sheets of Blaydon District Industrial and Provident Society.

Bristol - -

1. Almanac for 1867, containing information concerning the Society.
2. Twenty-fourth Quarterly Report and Balance Sheet.

Hull Anti-Mill -

1. Rules of the Society.

The "Anti-mill Society" was originally instituted in 1795, for the purpose of erecting a mill to supply the members with flour; the first stone was laid on the 7th June 1796, and the mill was completed on the same date in the following year; the shares were nominally of the value of 1*l.*

In the year 1856 the rules were re-constructed, and the Society registered as the "Hull Anti-mill Industrial Society" under the provisions of the Statute 15 & 16 Vict., c. 31, by which the society was enabled to supply flour *to the public as well* as its members, the profits being divided amongst the members in proportion to the quantity of flour they had consumed. The value of the shares in 1861 was declared to be 2*l.* 10*s.*

In the year 1862 it became necessary again to remodel the rules in consequence of the previous Act relating to Industrial and Provident Societies having been repealed and a new Act passed in lieu thereof, by which greater freedom of action was granted, together with limited liability; and with a

Names.

HULL ANTI-MILL—*cont.*

view to place the shares within the means of working men they were reduced to a fixed value of 1*l.* 5*s.* each, the present shareholders receiving two shares for the one they had previously held, which shares were also made by the new law transferable.

A certificate of registration has been given by J. TIDD PRATT, Esq., in accordance with the "Industrial and Provident Societies Act, 1862."

At a special general meeting of the members of this society, held on the 19th day of November 1862, the following rules, which had previously been carefully examined and revised by a committee appointed for that purpose,) were approved and adopted. The undermentioned persons being at that time the officers of the society.

President.—Mr. THOS. HALLER.
Vice-President.—Mr. JOHN WRIGHT.
Treasurer.—Mr. JAMES PLAXTON.

Committee :—

Mr. JOHN DIBB.
,, JAMES MORRIS.
,, WILLIAM GILLETT.
,, HENRY DALTON.
,, WILLIAM LOCKING.
,, WM. SCAUM.
,, STEPHEN DENTON.
,, WILLIAM R. CHRISTIE.
,, HENRY GOULD.
Mr. JOSEPH BARKER.
,, THOS. DOWNS.
,, HENRY HARPER.
,, ROBT. WHITESIDE.
,, JOHN BATTY.
,, ROBT. COOPER.
,, WM. STUBBS.
,, JOHN F. UPTON.
,, JOHN R. CATTERSON.

THOS. STOW, Secretary.

RULES.

I.—*Name, Place of Office, and Object of Society.*

1. This society shall be called the "Hull Anti-Mill Industrial Society, Limited," and the registered offices of this society shall be at the Land-of-Green-Ginger, Hull, in the county of York. The object of the Society is to carry on the trade or business of corn millers.

II.—*Capital and Admission of Members.*

1. The capital of the society shall consist of 5,000 shares of One Pound Five Shillings each, and no person shall hold less than one share, or more than five.

2. No person shall be admitted as a member of the society, except by the committee of management, and every member on election shall take one or more share or shares. He shall pay sixpence entrance fee, and shall be furnished with a copy of the rules of the society.

Any person may become a shareholder by paying at once the full value of the share or shares, or by paying not less than one shilling per week for each share until he has paid up his share; and in default he shall be fined one penny per week, unless the default is shown to have arisen from sickness, distress, or want of employment, or any other reason satisfactory to the committee of management, in which case a written statement of the cause of default shall be sent to the secretary at the time at which such payments ought to be made, otherwise the fines shall be in force, but any dividend or bonus to which he may become entitled shall be carried to his credit in the books of the society until his share shall be fully paid up.

III.—*Mode of holding Meetings.—Voting.*

1. The half-yearly meetings of the members shall be held on the last Wednesday in the months of January and July in every year; the meeting held in the month of January shall be considered the general annual meeting. The meetings shall be held at such convenient place as the committee may determine. No meeting of the society shall proceed to business unless at least thirty members of the society, entitled to vote thereat, be present within one hour of the time of meeting, otherwise such meeting, if it be the ordinary annual, or half-yearly meeting of the society, or a special general meeting convened by the committee of management, shall stand adjourned to that day week; but if it be convened by notice from the members it shall be absolutely dissolved, but any general meeting may adjourn from time to time, for any period not exceeding thirty clear days, and no meeting shall be rendered incapable of transacting business by the want of a quorum after the chair has been taken.

2. At every half-yearly meeting of the society a general statement, signed by three of the committee and the secretary, showing the transactions of the society during the past half-year, its present condition, and the state of its affairs generally, and the auditors' report and balance sheet shall be read to the society, and shall be printed for distribution amongst the members every half-year; and the books, and accounts, and the statement of accounts audited and approved by the auditors, shall be produced for the inspection of the members, and such other business transacted as may be deemed proper and expedient. The committee may of their own authority call a special general meeting at any time, and such a meeting shall also be called upon the requisition in writing of any eighty members sent to the secretary, stating therein the purpose of such meeting; and six clear days notice of such meeting shall be given by the secretary, who shall cause a sufficient number of placards to be posted, specifying the time, place, and objects thereof, and at any such meeting no other business can be transacted than the business specified in the notice convening it. If at any general or special

Names.

HULL ANTI-MILL—*cont.*

meeting of the Society the votes are equal the chairman shall have the casting vote.

3. All questions shall be decided in the first instance by a show of hands, unless five members present demand a ballot, in which case a ballot shall be taken, but no proxies shall be admissible; each member shall have only one vote.

4. Members shall produce their certificate of membership at all general and special meetings, and any member defacing or losing his certificate shall pay twopence for a new one.

5. All notices required to be given or sent to members shall be deemed to be duly served by sending or posting the same addressed to the member at his address inserted in the share register book.

IV.—*Making or altering Rules.*

1. No new rule shall be made nor any of the rules herein contained or hereafter to be made shall be amended, altered, or rescinded, unless with the consent of a majority of the members present at a general meeting of the society, specially called for that purpose.

V.—*Registration of Shares.*

1. A share register book shall be kept by the secretary, in which shall be entered the following particulars:—The Christian and surname, place of residence, profession, or business, and date of entrance of each member of the society, the number of shares held by each member, with the number and value of each share, the date when the member became such, and the date at which he ceased to be a member in respect of any share. The transfer of all shares shall be registered in a similar way.

VI.—*Transfer of Shares.*

1. Any member may with the consent of the committee of management, transfer all or any of his shares to any other member of the society, or to any other person, upon giving one calendar month's notice in writing to the secretary, such notice to contain the Christian and surname, place of abode, and profession or business of the proposed transferee, and the number of each share to be transferred, and the consideration to be paid for the transfer; no transfer, however, shall be valid, except the same shall be confirmed at the next general meeting of the society. All transfers shall be in the following form, namely:—

I, of in consideration of the sum of paid to me by of , do hereby transfer to the said share (or shares), numbered in "The Hull Anti-Mill Industrial Society, Limited," standing in my name in the books of the society, to hold unto the said subject to the several conditions on which I held the same at the time of the execution thereof, and I the said do hereby agree to take the said share (or shares) subject to the same conditions, as witness our hands the day of .

There shall be paid to the secretary for each share so transferred a fee of one shilling, which shall be carried to the funds of the society.

VII.—*Audit of Accounts.*

1. The committee of management shall cause the accounts of all business carried on by the society to be regularly entered in proper books, and shall cause a statement of the accounts of the society, with all necessary vouchers, up to the end of the months of June and December in each year, to be made out and laid before the auditors not less than ten nor more than fifteen days before each half-yearly meeting of the society, and shall lay before each such meeting a balance sheet signed by the auditors, showing the receipts and expenditure and the assets and liabilities of the society, together with a statement of the affairs of the society since the last ordinary meeting, and of their then condition, and the auditors shall make to such meeting a report upon the balance sheet so laid before them, and in case they do not adopt the same or any part thereof, shall specially report thereon to such meeting. Every such balance sheet signed by the auditors, shall, after it has been approved by any such meeting, be binding upon all members of the society except as to any error exceeding 10*l.* discovered within one calender month thereafter; and the books of account of the society shall be open to the inspection of any member at all reasonable times.

VIII.—*Investment of Capital, &c.*

1. The committee of management may, if they shall think fit, lend to any company established under the Joint Stock Companies Act, with limited liablity, or under the Industrial and Provident Societies Act, 1862, any part of the capital funds of the society, at such rate of interest and upon such terms as to repayment or otherwise as may be agreed upon.

2. All monies received for goods sold, contributions, donations, admissions, or otherwise, shall be paid to an account to be opened with some bank selected by the committee in the name of the society, and all such monies shall be applied towards carrying out the objects of the society, and so much of the funds of the society as are not required for immediate use or to meet the usual accruing liabilities, shall be invested in such securities as the committee from time to time may direct, and shall from time to time by the direction of the said committee be sold out and the proceeds thereof applied to the general objects of the society.

Names.

HULL ANTI-MILL—*cont.*

IX.—*Death of Members.*

1. Upon the death of any member of the society his legal personal representative shall give notice thereof in writing to the secretary, stating the Christian and surname, place of abode, and profession or business of such legal personal representative, in order that the shares of the deceased member may be registered in the name of such legal personal representative or of such other person or persons entitled thereto as he or she shall by such notice direct, and upon such notice being given the shares of such deceased member shall be transferred into the name of such legal personal representative, or into the name of such other person or persons entitled thereto as such representative shall direct.

X.—*Application of Profits.*

1. The net profits of all business carried on by the society, after paying or providing for the expenses of management, interest on money borrowed, and dividends (not exceeding 5 per cent. per annum upon paid up subscriptions,) shall once in every year be distributed among the members in proportion to the quantity of flour purchased by each member, made and sold by the society, and used in his family. Any dividend not called for within two months after being declared shall be added to the capital of the society.

2. If the committee of management shall deem it necessary to increase the trading capital of the society, they may form a reserve fund for that purpose by setting aside a sum not exceeding one-eighth of the net profits in any one year until the said fund shall amount to 500*l*.

XI.—*Officers and Committee of Society.*

1. The committee of management shall consist of twenty-one members, viz.;—a president, vice-president, treasurer, and eighteen committee men; there shall also be two auditors and five arbitrators (the arbitrators not being directly or indirectly interested in the funds of the society).

2. At every annual meeting of the society there shall be elected a vice-president and a treasurer, and the vice-president of the previous year shall become the president, and the president shall retire from office. At every annual and half-yearly meeting one auditor and nine committee men shall go out of office in rotation, and others shall be elected in their places. All retiring members of the committee or officers of the society shall be immediately eligible for re-election.

3. The rule to be observed at the election of officers an committee-men shall be as follows:—the committee shall nominate three members, from whom to choose the vice-president, and three from whom to choose the treasurer, at each annual meeting. Each member present at the annual or half-yearly meeting at or before eight o'clock may nominate one member for auditor or committee-man, giving his number, name, and residence, his likewise the number and name of the proposer, as they appear on the register of members respectively.

4. The officers of the society shall receive such remuneration for their services as shall be agreed upon at any general half-yearly meeting. Every person appointed to any office touching the receipt, management, or expenditure of money for the purposes of the society, shall, before entering upon the duties of his office, give such security as shall be deemed sufficient by the committee of management,

5. Any member being duly elected to any office and refusing to act shall be fined as follows:—president, vice-president, and treasurer 5*s*. each; auditors and committee-men 2*s*. 6*d*. each; and others shall take their places who have the next highest number of votes, and be subject to the same fines if they refuse to act, which fines (together with all other fines) shall go to the funds of the society.

6. The president shall preside at all general or special meetings of the society or committee. If the president be absent or refuse to act, then the vice-president shall preside, but if both be absent or refuse to act then the treasurer shall preside, but if all three should be absent or refuse to act, then the meeting may elect a chairman, who shall exercise during the whole of that sitting the power conferred upon the president of the society.

7. The committee shall meet on the first Monday of every month for the transaction of business, with power to adjourn from time to time as may be required. Five members shall form a quorum. The committee may appoint from their own body sub-committees, who shall perform such duties as may be prescribed to them by the committee, and report to the committee from time to time the result of their labours.

8. Ministers of religion, physicians, surgeons, mariners, members above sixty years of age, persons resident without the limits of the borough, persons having served within twelve months (if unwilling to act) and females, shall be exempt from holding office in the society. And no member of the committee shall accept any contract or supply any articles to the society, or be appointed tradesman to the society during his term of office.

XII.—*Management.*

1. The business and affairs of the society shall be conducted by the committee of management, who shall have the control of all business carried on by or on account of the society, the determination of the persons to be employed therein, the rates of payment to be made for work or service done on account of the society, and the appointment and removal of agents and other servants necessary for conducting the business, and may assign to any such servants such duties and salaries as they think fit.

2. The committee of management shall in all things act for and in the society's name, and all acts and orders under the powers delegated to it shall

Names.

HULL ANTI-MILL—*cont.*

have the like force and effect as if they were the acts and orders of a majority of the members of the society at a general meeting thereof. Every question at such meeting shall be decided by a majority of votes, and if the votes are equal the chairman shall have a casting vote. The president or any three of the committee may call a special meeting thereof by giving notice in writing to the secretary, who shall give one clear day's notice to the members of the committee of the time and place of holding such special meeting, but at such special meeting no other business than that specified in the notice shall be taken into consideration.

3. The committee shall convene all meetings of the society on such requisitions as are herein mentioned. Any member of the committee not present at five minutes past the hour of meeting shall be fined 1*s.*, unless he can show a reason for his absence to the satisfaction of a majority of the committee. The chairman of each meeting shall sign the minutes and proceedings and all contracts then entered into.

4. The stock shall be taken twice a year, viz., at the end of June and December by the president, vice-president, and secretary; the president and vice-president shall have 5*s.* each for their trouble.

5. The committee of management shall have power to provide for any contingencies that are not provided for in these rules as they may deem necessary for the best interests of the society.

XIII.—*Treasurer.*

1. The treasurer shall be responsible for such sums of money as may from time to time be paid into his hands by the secretary or any other person on account of the society, and shall if required attend every general meeting; he shall before taking upon himself the execution of his office give such security as the committee of management shall think necessary; he shall draw all checks for money on the bank, which shall be signed by himself and countersigned by the secretary, the secretary having first furnished the treasurer with all necessary particulars, which shall be inserted in a book kept for that purpose.

XIV.—*Secretary.*

1. The secretary shall give his attendance at all meetings of the society and committee; he shall record correctly the names of the committee there present and the minutes of their proceedings, which he shall transcribe into a book to be read at the next meeting of the committee, and if found accurate to be authenticated by the signature of the chairman.

2. He shall receive proposals for admission and keep the accounts, documents, and papers of the society in such manner and for such purposes as the committee may appoint, and shall prepare the annual and other returns required to be sent to the Registrar of Friendly Societies in England; he shall receive the fines, contributions, and other payments due to the society, and duly account for the same. The secretary shall on all occasions in the execution of his office act under the superintendence, control, and direction of the committee.

XV.—*Agents.*

1. The agents of the society shall be appointed in such places as the committee shall think fit for the purpose of supplying such articles as the society may deal in, and for performing any other reasonable service the committee may require.

2. The prices at which the agents shall sell the goods of the society, and the remuneration which they shall receive for the sale of such goods, shall be fixed by the committee. Any agent having any flour upon his premises not obtained from the society, shall, on proof thereof, be immediately dismissed, and no agent shall be or remain a member of the society.

3. Each agent before giving an order for goods must pay into the bank a sum equal in extent to the order to be given by him, and in no case a less sum than 10*l.* The bankers' receipt for the money paid to be deposited with the secretary when the order is given.

XVI. *Servants of the Society.*

1. The manager shall deliver to the secretary every Friday morning an account in writing of all sums required for the payment of wages and petty charges, the amount of which the secretary shall pay from the petty cash he holds for general expenses.

2. No donation of money or other things shall be presented to any servant of the society unless the same be awarded at a general meeting of the members, of which due notice shall be given.

XVII. *Nomination by Members.*

1. The secretary shall keep a book in which a member may nominate in writing the person to whom his share or shares and interest shall on his decease be transferred, such person being the husband, wife, father, mother, child, brother or sister, nephew or niece of such member. Any member may revoke such nomination by a written notice to that effect signed by himself, and it shall be the duty of the president to see the nomination erased. The member to pay 3*d.* to the funds of the society for each nomination or revocation.

2. The committee of management may if they think fit, instead of making such transfer, pay to any person or persons so nominated the full value of the interest of the member as would have been paid to the member if he had at the time of his death withdrawn from the society.

Names.

HULL ANTI-MILL—*cont.*

XVIII. *Settlement of Disputes.*

1. If any dispute shall arise between any member, or any person claiming through, or under a member, or under the rules, or the executors, administrators, or nominee of a member, and the society, or the committee of management thereof, it shall be referred to arbitration; and in each case of dispute the names of the arbitrators shall be written on pieces of paper, and placed in a box or glass, and the three whose names are first drawn out by the complaining party, or by some one appointed by him, shall be the arbitrators to decide the matters in difference. The costs of the reference shall be paid by such party, or by the parties in such proportion as the arbitrators shall direct; and the parties requiring the arbitration shall, previous to the matter being gone into, deposit with the secretary the sum of 20*s.* to abide the result.

EDWARD JONES,
JAMES SMITH,
JESSE MALCOLM, } Members.

THOS. STOW, Secretary.

No. 288.

I, John Tidd Pratt, esquire, registrar of friendly societies in England, do hereby certify that the rules of the Anti-Mill Industrial Society, Limited, held at Land-of-Green-Ginger, Hull, are registered under the Industrial Societies' Act, 1862.

Given under my hand this 12th day of December 1862.

JOHN TIDD PRATT,
Registrar of Friendly Societies in England.

REPORT of the COMMITTEE at the ANNUAL MEETING of the MEMBERS on Wednesday evening, January the 30th, 1867.

Your Committee meet you with more than ordinary pleasure on the present occasion, inasmuch as the profit realized during the past half year surpasses by far the operations of any similar period, which the Committee attribute in a great measure to the modern and efficient machinery introduced and in full operation in your mill, making it second to none in this part of the country.

The efforts of your Committee to increase the number of shareholders in the society is meeting with a ready response, as appears from the balance sheet; the number on the register now amounts to 4,016, which accounts for comparatively so small an amount of flour taken by the public and so large an amount consumed by members, who are entitled to the profits, which as a natural consequence reduces the bonus.

The benefit arising from the society's operations is being spread through the neighbouring towns and villages, which has resulted in the appointment of some agents in other towns, thus encouraging your Committee to hope that the mill is destined to confer a benefit, not only on an extended scale in Hull, but the surrounding country.

The total quantity of flour sold during the year is 437,480 stones, against 447,230 stones in the year 1865, showing a decrease of 9,750 stones; while in 1865, 17,510 stones were sold to other institutions, leaving an increase of 7,760 stones sold through the society's agents. The flour taken by members is 326,251 stones; by non-members, 111,229 stones; and the amount of profit now disposable is 3,335*l.* 0*s.* 2*d.*

Resolutions will be submitted for your approval, that a dividend of 5 per cent., 1*s.* 3*d.* per share, and a bonus of 2¼*d.* per stone on members' purchases be declared.

The following gentlemen now retire from office, but are eligible for re-election; Mr. John Dibb, president; Mr. James Plaxton, treasurer; Mr. John Wright, auditor; Messrs. Cornwell, Jackson, Tomlinson, Wright, Haller, Ellis, Dalton, Keyworth, and Heale.

JOHN DIBB, President.

BALANCE SHEET of the HULL ANTI-MILL INDUSTRIAL SOCIETY, LIMITED.
For the half-year ending 31st December 1866.

Dr.	*Trade Account.*			£	*s.*	*d.*
To stock on hand 1st July 1866				997	3	3¾
,, 7,768¾ qrs. of wheat purchased				21,776	10	3
,, wages and salaries				340	9	3
,, coals				157	0	0
,, horses				43	10	1
,, rates and taxes				33	0	9
,, trade charges, viz.:—	£	*s.*	*d.*			
Millwright and engineer	56	4	0			
New windmill sail	28	0	0			
Fire and boiler insurance	27	0	9			
G. H. Bovill, royalty	24	8	0			
Shoeing, jobbing, and chiselsmith	11	4	3			
Printing, stationery, and advertising	10	8	3			
Wheelwright and wood	9	15	8			
Sack hire	8	18	2			
Leading and carriage of flour	8	10	4			
Oil and tallow	8	11	0			
Hemp, straw, and twine	7	12	6			
Office rent	7	10	0			
Wire, brushes, &c.	4	14	9			
Bricklayer	3	16	0			

Names.

HULL ANTI-MILL—*cont.*

	£	s.	d.	£	s.	d.
Gas				1	7	4
Saddler				1	5	2
Use of Sailors' Institute				1	1	0
Sundries				14	1	9
				£234	8	11
Less fixed Stock account				50	0	0
					184	8 11
To balance, profit					1,962	18 1
					£25,495	0 7¾

Cr.	£	s.	d.
By cash for goods sold	24,385	11	4⅛
„ cash for short delivery of wheat	2	14	9
„ balances owing by agents	8	15	7½
„ stock of wheat, flour, &c. on hand 31st December 1866	1,093	12	4¾
„ transfer fees, &c.	4	6	6
	£25,495	0	7¾

GENERAL STATEMENT, 31st December 1866.

Dr. *Liabilities.*	£	s.	d.	£	s.	d.
To shareholders' capital, 4,016 shares, at 25*s.* each				5,020	0	0
„ agents' balances due to them				242	9	7
„ cheques unpaid				587	9	5
„ reserve fund				0	12	9¾
„ profits to 30th June 1866, as per last balance sheet	1,491	1	1			
„ profits to 31st December 1866	1,962	18	1			
				3,453	19	2
				£9,304	10	11¾

Cr. *Assets.*	£	s.	d.	£	s.	d.
By cash in the bank				3,790	1	7
„ fixed stock	3,967	0	10			
„ working materials	395	10	4			
				4,362	11	2
„ stock on hand :—						
Wheat, flour, &c.	1,093	12	4¾			
Coals, oil, and horse corn	49	10	2½			
				1,143	2	7¼
„ agents' balances owing by them				8	15	7½
				£9,304	10	11¾

Cr. *Reserve Fund.*	£	s.	d.
By amount brought down	0	12	9¾

Profit and Loss Account.

Dr.	£	s.	d.	£	s.	d.
To depreciation of fixed stock	99	3	6			
„ depreciation of working materials	19	15	6			
				118	19	0
„ balance disposable				3,335	0	2
				£3,453	19	2

Cr.	£	s.	d.
By profit for the year	3,453	19	2

Examined and found correct this 18th day of January 1867.
JOHN FOUNTAIN, JOHN WRIGHT, } Auditors.

J. H. SLACK, H. M. ELLIS, J. M. KEYWORTH, } Members of the Committee.

WILLIAM RUSSELL, Secretary.

2. Lithograph view of Mill.

KIRKHEATON CO-OPERATIVE INDUSTRIAL PROVIDENT SOCIETY.

1. Account of Origin and Balance Sheet.

2. Rules of Society.

LEEDS - -

1. Notes, Explanations, and Memorandums applicable to Answers 15a. and 69.

The replies to the questions in the Schedules herewith may be taken as strictly official; but the views and opinions now given are to be understood as belonging to the writer.

Names.

LEEDS—*cont.*

It will be perceived from the statistics of profit and loss, and of the business done and results, that the proceedings of the Society and of its operations have been exceedingly varied. Without explanation, and even with it, this will be difficult for outsiders to understand. For the first six years, the Society, as the law then stood, could not sell to any but its own members. Profit was then a matter of no consequence, because the members themselves would have had to pay it. The flour, &c. was then sold at "as near prime cost as possible." But to pay for the corn mill, purchased in 1848, to be completed in six years, the directors charged a trifle above cost, making the sums shown up to 1851. In the early part of the year 1852, the writer went up to London, and was one of a deputation introduced to Mr. Labouchere, then the President of the Board of Trade, for the purpose of representing that the general law of the country prevented the fair and free development of co-operation. As the law then stood, members could only purchase, and societies could not sell to the public. In the case of the Leeds flour mill, at that time the demand for flour was good, but members did not require the bran necessarily left in making the flour, so that the bran had accumulated to the extent of 600 bags full, weighing down the mill and spoiling. It locked up capital, and, at the same time, the public outside wished to purchase and use the bran. Upon this representation, Mr. Labouchere said, he would advise that the law should be altered, so that "a free trade to import corn should have no bar to its distribution." In that year the law was accordingly altered, sale was thrown open, and then being allowed to sell to the public, a profit was charged to cover casualties, &c. ; and the profit from public and members trading was returned to members in the shape of bonus's upon trading transactions. (*See* page 6, paragraph 2, of pamphlet "Economic Results of Co-operation.") The writer believes it was the case and condition of the Leeds Flour Mill Co-operative Society, that then decided the change and extension of the law, and the Friendly and Provident Societies Act. It will be seen, that 1852 and 1853 were then years of large profit. In fact, the members in the year 1853 drew out more per share than ever they had paid in. One explanation may be given,—they were years of rise of prices, and so of exceptional profits. At that time demand was brisk, and often greater than the mill could supply. It was proposed by certain of the more intelligent and thoughtful members to apply the profit to extension, and so supply other districts applying. This the majority of members refused, and would take out their bonus's, which at the time was given in flour. The result was, that the money got spent, and the Society was short of funds. About that time the question of machinery to increase production was considered; but as the directors were elected for only one year, each committee left it to successors to carry out. These only obtained the requisite knowledge about expiration of office; and so delay went on for years. At last action was taken. Two plans were proposed, and the directers differed upon whether the old horizontal method of grinding stones, or a new patent perpendicular mode of placing the stones would be best. Contrary to the advice of the then able and efficient manager, the perpendicular scheme was adopted. This was to grind more, better, and at less cost. On experiment it was found to fail. The old machinery did not suit the extra speed required by the new; breakages followed; delays and costs accumulated; and the manager was blamed for results he had predicted would follow. Instead of the mistake being admitted, a new manager was proposed by the new stone party; this the old stones did not approve of, and a serious society contention ensued, which lasted from 1855 to 1858. The old manager was discharged, or rather he withdrew, after an adverse vote, joined a rival society, and began to compete with this and take away trade. The new servants were neither honest nor so able, expenses increased, and a serious dissatisfaction followed, so that from 1856 to 1859, more members withdrew than were added to the Society. At one time it appeared very doubtful if the Society

Names.

LEEDS.—*cont.*

would hold together. Another source of difficulty arose about 1853. It is requisite to understand this, to perceive the difference in the prosperity of the Rochdale Society and this one at Leeds. Rochdale began as a co-operation society on principle. Leeds began only as a flour society, for pure and cheap flour; and many wished to limit its operations solely to this. So that when in 1858, co-operators who wished on principle to extend, and moved on by legal meetings to go into the grocery and provision departments, were opposed by a minority, and by the flour sellers of the society itself,—who, selling grocery for themselves, objected to the Society extending operations, as it would interfere with them. It took four years to settle that question, and when in 1858, grocery was commenced, and mistakes were made, they served as a handle for further discontents, divisions, and injury to the prosperity of the Society. In 1859 and 1860 a better feeling began to grow; the adverse members having been weeded away, a general feeling for extension prevailed. The law also being again altered, allowing the Society to hold freehold property in a corporate capacity, additional land was purchased, and new premises, stores, shops, &c. were erected, adjoining the flour mill at Holbeck. The business went from 53,836*l.* 10*s.* 8*d.* and capital from 8,788*l.* 4*s.* 3*d.*, in 1858, up to 82,545*l.* 4*s.* and the capital up to 14,655*l.* 17*s.* 3*d.* in 1860; from which it will be perceived, both have slowly but gradually advanced, subject to the variations in the price of grain, the largest part of transactions. . The sale of meat was begun about 1861–2, but it has been a constant failure. Dishonesty in the servants and butchers has been a perpetual trouble and difficulty. The competition of the low priced markets for inferior cattle, with the difficulties named, have at Leeds, and in many other places, as yet prevented the butchering department being satisfactory, except that it has uniformly provided a good article.

One of the principal causes which impede the rapid growth of success at Leeds, is the extent of ground it has to cover to accommodate its members. From Saltaire to Rothwell, where our stores extend, is at least 15 miles. We have 14 stores, all paying rents and requiring service; but the same business might be done with one-third the number and costs. It thus follows that the expenses of retailing prevent profit; so is that while at Rochdale they can retail for a cost of 2½*d.* per pound, it costs at Leeds and Manchester 1*s.* 2½*d.*, or more. We thus account for the fact that Rochdale can declare a bonus of 2*s.* 5*d.* or 2*s.* 6*d.* per pound on trading, while Leeds and elsewhere can but declare a bonus of 1*s.* to 1*s.* 6*d.* per pound on certain articles (sugar and salt being excepted, &c.) And thus we see that Rochdale can give inducements which others cannot, and thus draw more custom and more profits from success ensuring success. Birmingham, London, Glasgow, and all large towns have the difficulty of large surface and consequent costs to contend with, and thus it may be explained and accounted for why Rochdale, Oldham, Halifax, and other compacter centres of co-operation flourish, from being more manageable at less cost.

Another sad source of difficulty and cause of failure has been owing to the fact of parties being formed of progressive and anti-progressive in the operations of the Leeds Society. In order to turn out the first manager, a strong party was formed for that object; then another was formed to turn out *their* nominees. Capacity and fitness were forgotten in the animosity of party, good men were discharged, and bad ones retained out of sheer party spite and combination. The Society was stirred to its centre to elect certain party directors, and these were tied to their party officials; evil results followed; good members were disgusted; the operations and the articles were defective as compared with what they ought to have been; and thus more or less losses and dissatisfaction have remained down to the present, and will, it is to be feared, continue for some time to come.

All this the writer attributes to the fact that the true knowledge and spirit of co-operation were lacking in the formation of the Society. Co-operation was to the founders only an accident, not a prin-

Names.

LEEDS—*cont.*

ciple, and hence the faith, trust, and endurance requisite to overcome the evils of all early operations, without knowledge and experience, were not exercised. The evils of accident were deemed as of principle; many withdrew, and others did not join. Other causes might doubtless be instanced as tending to the results instanced; but these are given as illustrations and explanations of how and why Leeds has not succeeded as other places. The writer believes that Co-operation itself is nowise in fault, and that Leeds might, if the members had willed, have equalled any other place, and excepting none; and although non-success is not usually deemed a ground for merit or reward, yet a clear knowledge of what to avoid may be equally valuable as to know what to do. So the causes and reasons of failure may be as profitable though not so praiseworthy as the results of success. It is thus that the errors and mistakes, now instanced, are given briefly and as impartially as the writer's means and opportunities will allow.

One present feature is now very satisfactory to those who had to conduct the early operations of the Society. Then there was the greatest difficulty to raise money, either by share or otherwise, and the members were most pressing to draw out every farthing possible. Now we have constantly to refuse loans, and if directors asked for it, with a prospect of proper use, they could have twice the capital at present in use. Nor is there any strong desire to withdraw profits, as formerly. In other words, the members in general have the most profound confidence in the soundness of the Society, and in the security of their money. The Society has thus become both a source of obtaining capital and of investing it satisfactorily for the members.

At present the principle of co-operation is strongly held, and the Society is at peace, so far as the principle is concerned. Better working, it is believed, will follow when experience and a more thorough education displaces the old elements of party ignorance and strife. A better working and knowledge will introduce better instruments, and success will be certain, and ensure success. In which belief I remain,

Most truly,

Nevile Street, Leeds, JOHN HOLMES.
Holmville Meltley,
January 21, 1867.

To Henry Cole, Esq., C.B.

2. Reports and Statements of Receipts and Expenditure.
3. Pamphlet on the Economic and Moral Advantages of Co-operation in the Provision of Food instanced in the People's Flour Mill Society.
4. Rules of Society.
5. Society's Almanac.

MANCHESTER AND SALFORD EQUITABLE.

1. Rules of the Society.
2. Balance Sheet and Thirtieth Quarterly Report.

To those unacquainted with the principles of co-operation the information contained below shows the advantages to be derived from becoming shareholders and purchasing at the society's stores. The rise and progress of the society is a proof of the success which may be attained under judicious management, and a sufficient guarantee of the soundness of the principles upon which the association is based; and the increased facilities now made and in progress, by the erection of new branch stores at Cheetham Hill, Gorton, Oldham Road, and Salford will be the means of widening the boundaries of co-operation in these and other localities.

How to become Shareholders.

A person wishing to join the society has only to leave his name and address at the central store, or at any of the branches, and pay an entrance fee of one shilling. At the end of one month he can receive his pass-book and rules, and is then entitled to all the privileges of the society. Every member is required to hold one 1*l.* share, which may be paid up at once, or by instalments of 2*s.* 6*d.* per quarter, and no member can hold more than 200.

All the shares can be withdrawn except the first, which is transferable only, but every facility is afforded by the directors to render transfer easy and prompt.

Advantages to Purchasers.

Tin tickets or vouchers are given with all goods purchased except sugar; these must be kept until they amount to 20*s.*, when they must be taken to

Names.

MANCHESTER AND SALFORD EQUITABLE —*cont.*

the store from whence the goods were purchased, and exchanged for a 1*d.* copper ticket. At the end of each quarter the stocks are taken, the books balanced, and the accounts audited, and whatever amount of net profit has been made is divided at so much per pound on each member's purchases, which may be withdrawn or added to capital.

The average dividend paid quarterly on members' purchases is 1*s.* 6*d.* in the pound.

Non-members receive 10*d.* in the pound, payable on the first four days of the week, on application to the shopman, who is authorized to receive and pay on non-members' checks when they amount to 10*s.*

The society appropriates (under authority of Act of Parliament) 2½ per cent. of net profits to educational purposes. The library, at the central store, contains upwards of 1,200 volumes of standard works. The librarian attends from 7 to 9 p.m., when members may obtain books (gratis) for home perusal. Catalogues 3*d.* each. The reading room (open daily) is free to the public. There are also reading rooms at several of the branch stores.

Management.

The management of the society is vested in a president, treasurer, and 12 directors, who are elected by the shareholders, and hold office for 12 months. No person is eligible for a director who has not been a member of the society for six months, or for president who has not served on the board of directors.

The directors meet every Wednesday evening, at the central store, at eight o'clock.

Monthly meetings of the shareholders are held at the Co-operative Hall, Downing Street, on the third Monday in each month, at eight o'clock.

The quarterly meetings are held on the third Monday in January, April, July, and October, when the report and balance sheet of the quarter's business are submitted to the shareholders.

Balance sheets, rules, and any further information may be obtained on application to the cashier, at the central offices, or to the shopmen at the various establishments.

Establishments.

Commencing with one establishment (in Great Ancoats Street), the society has gradually spread its branches in every direction; and the new central store in Downing Street, and ten branch stores in and around Manchester and Salford, are striking proofs of the magnitude and extent of its operations at the present time.

Central Grocery and Provision Store.—Downing Street, London Road.

Branches.—168, Great Ancoats Street; Ashton Old Road, Openshaw; Bank Parade, Chapel Street, Salford; Oldham Road; Stretford New Road (opposite Trinity Church); Wellington Street, Gorton; Cheetham Hill; 234, Hyde Road; 8, Moss Place, Ashton New Road, Bradford; 165, Great Ducie Street, Strangeways.

Drapery, Millinery, Mantles, &c.—Central store.

Boots and Shoes.—Central store.

Hours of Business.—Mondays, Wednesdays, and Thursdays, from 8 a.m. to 8 p.m.; Fridays, from 8 a.m. to 9 p.m.; Saturdays, from 8 to 10. On Tuesdays all the establishments close at 1·30.

Withdrawals.—A member wishing to withdraw capital must attend personally; or, if unable to do so, send a duly authorized note bearing such member's signature, to the cashier's office, otherwise no money will be paid.

N.B.—The rule requiring notice for the withdrawal of capital has been suspended upwards of three years.

NORTHAMPTON INDUSTRIAL SHOE MANUFACTORY.

Rules of the Society.

NORTHERN CO-OPERATIVE COMPANY.

1. Memorandum and Articles of Association.
2. Reports and Balance Sheets.

ROCHDALE DISTRICT

1. Report to Members.
2. View of Mill.
3. Member's Book, with Rules.
4. History of the Society.

ROCHDALE PIONEERS

1. Member's Book with the Rules.

The Rochdale Equitable Pioneers' Society was established in the year 1844, and enrolled under the Friendly Societies' Act.

In the year 1852, the Industrial and Provident Societies' Act was passed by Parliament, which gave greater facilities to Co-operative Societies. On October 23rd, 1854, this Society passed a resolution to go under that Act; several Societies

Names.

ROCHDALE PIONEERS —*cont.*

having been formed which worked well under it. It was found necessary to apply to Parliament again for a further extension, and in the year 1862 an Act was passed which gave still greater powers and facilities to such Societies.

The following are among the benefits derived from being enrolled under the Industrial and Provident Societies Act, 1862:

1. The rules are binding, and may be legally enforced.
2. The liability of members is limited to the number of shares taken up by them.
3. The property of the Society is vested in the name of the Society.
4. Protection is given to the members, their wives and children, &c., in enforcing their just claims, and against any fraudulent dissolution of the Society.
5. Fraud committed with respect to the property of the Society is punishable by justices or county courts.
6. Disputes settled by reference to justices or arbitrators, and the order of justices or arbitrators to be final; with power to award compensation to any member if unjustly expelled.
7. Members may inspect the books and the names of the members, at all reasonable hours, at the registered office of the society.

ADVICE to MEMBERS of this and other Societies.

1st.—Procure the authority and protection of the law by enrolment.

2nd.—Let integrity, intelligence, and ability be indispensable qualifications in the choice of officers and managers, and not wealth or distinction.

3rd.—Let each member have only one vote, and make no distinction as regards the amount of wealth any member may contribute.

4th.—Let majorities rule in all matters of government.

5th.—Look well after the money matters. Punish fraud, when duly established, by the immediate expulsion of the defrauder.

6th.—Buy your goods as much as possible in the first markets; or, if you have the produce of your industry to sell, contrive if possible to sell it in the last.

7th.—Never depart from the principle of buying and selling for ready money.

8th.—Beware of long reckonings. Quarterly accounts are the best, and should be adopted when practicable.

9th.—For the sake of security, always have the accounted value of the "Fixed Stock" at least one fourth less than its marketable value.

10th.—Let members take care that the accounts are properly audited by men of their own choosing.

11th.—Let committees of management always have the authority of the members before taking any important or expensive step.

12th.—Do not court opposition or publicity, nor fear it when it comes.

13th.—Choose those only for your leaders whom you can trust, and then give your confidence.

RULES of the ROCHDALE EQUITABLE PIONEERS' SOCIETY LIMITED. Adopted at Special General Meetings of the Members, October 20th, 28th, November 3rd, 1862, and February, 16th, 1863.

All Purchases to be paid for on delivery.

Names.

ROCHDALE PIONEERS —*cont.*

NOTICE.

This book and the metallic cheques must be left at the Society's Registered Office, on or before the Monday previous to the day appointed for Stock Taking. The Stocks are taken on the first Tuesday after the 15th of each of the months of March, June, September, and December in each year; and the Books are required in order that the Interest and Dividend may be added to the Member's Account.

A receipt will be given for the Book and cheques, which must be produced before the Book can be returned.

Members are requested to see that the right number of cheques is entered on the receipt before leaving the office.

Members are requested to get their small cheques exchanged for one pound cheques as often as possible during the quarter, and to arrange them in one pound lots, so that they can be readily counted. But avoid bringing them on Fridays or Saturdays, as the shopmen are generally busy on those days.

All persons are requested to examine their cheques and change before leaving the counters in the shops or offices, as no mistake can afterwards be rectified.

RULES.

Name.

1.—This society shall be called the "Rochdale Equitable Pioneers' Society, Limited."

Objects.

2.—The object of this society is to raise, by the voluntary subscriptions of the members, a fund for better enabling them to purchase food, firing, clothes, or other necessaries, by carrying on in common the trade of general dealers, both wholesale and retail.

Registered Office.

3.—The office of this society shall be at the Society's Store, in Toad Lane, Rochdale, in the county of Lancaster, whereall the books of accounts, securities, and documents of the society shall be kept, other than such, if any, as are required for carrying on business on account of the same elsewhere; but the place of business may be altered by the committee of management.

Admission of Members.

4.—This society shall consist of the present members of the Rochdale Equitable Pioneer's Society, and of all other persons who sign a declaration of their readiness to take out at least five shares, and pay a deposit of not less than one shilling, together with one shilling entrance money, and have been admitted by the committee of management, and approved of by a majority of the members present at an ordinary general meeting of the society. A person applying to become a member of the society shall be furnished by the secretary or other officer appointed with a printed form, which must be filled up with such person's name, trade, and residence, signed by two members of the society, and addressed to the committee of management, who shall, if the person so applying be approved of, cause his name to be written on a paper, to be posted in the meeting room of the society, three clear days before the general meeting, at which meeting such candidate's name shall be read over, and if no objection be raised by the members present he shall be considered a member of this society after he has signed the declaration. Every person so proposed must, on receiving the form of application, purchase a copy of the rules, and pay an entrance fee of one shilling, which shall be appropriated to the reduction of the fixed stock.

Names.

ROCHDALE PIONEERS —*cont.*

A person so proposed, and not admitted to membership, shall have his entrance shilling returned; and if any person proposed and approved of does not sign the declaration, and pay the deposit within two months after his proposition, he shall forfeit his entrance shilling, and shall not be admitted to membership unless again proposed.

List of Members.

5.—A list of members' names and residences shall be kept at the registered office of the society's business, which shall be open to their inspection, and no person shall be deemed a member unless (or until) his name appears on this list; but any person who claims to have his name entered upon such list may refer the question of his right to be entered thereon to arbitration, under the provisions herein-after provided. And the committee of management shall cause the names of all persons who under these rules cease to be members to be erased therefrom.

Capital, how paid up.

6.—The capital of this society shall be raised in shares of one pound each, which shall not be transferable, except in the case mentioned in rule 13, but the investment of each member shall accumulate or be employed for the sole benefit of the member, or of the husband, wife, children, or kindred of such member. Each member must hold at least five shares, and shall not pay less than threepence per week, or three shillings and threepence per quarter, until he has made up his five shares; and on default shall be fined threepence per quarter, unless the default is shown to have arisen from sickness, distress, or want of employment, or any other reason satisfactory to the committee of management, in which case a written statement of the cause of default shall be sent to the secretary at the time at which such payments ought to be made, otherwise the fines shall be in force. Any member may pay the whole or any part of his subscriptions in advance. No member shall hold more than one hundred shares in the capital of this society, nor shall any member or person claiming by, through, or in trust for any member be entitled to any share or interest in the proceeds of this society exceeding in amount one hundred pounds.

Recovery of Subscriptions.

7.—All sums due from any member under the provisions of these rules, for subscriptions or otherwise, shall be recoverable from him, his executors or administrators, by legal process, as a debt due to the society; and the secretary shall lay before the quarterly meetings a return of all monies due for any subscriptions, or fines, or other debts due to the society, and of all monies paid to every member under the provisions of these rules since the last of such returns; and a copy of each such return shall be furnished to the committee of the society, who, on the resolution of any such meeting, shall take such proceedings as they deem advisable to enforce the payment of any sum so due, and shall furnish such returns to the arbitrators herein-after mentioned, in the event of any proceedings being taken before them to enforce contributions from any member of the society, as herein-after is provided.

Loans.

8.—The committee of management herein-after mentioned may obtain by way of loan from any person, whether or not a member of this society, for the purposes thereof, from time to time, on the security of bonds signed by three at least of the committee, and countersigned by the secretary for the time being, such sum or sums of money as any special general meeting of the members sanctions, not exceeding two thirds the amount of the declared capital of the society, at such rate of interest not exceeding six per cent. per annum, and subject to such provisions for repayment

Names.

ROCHDALE PIONEERS —*cont.*

as are agreed upon on such advance; and all monies so secured shall be payable in the manner mentioned in such bond, and be enforceable against all members of the society liable to pay the same in manner provided by these rules; and all writings purporting to be the bonds so executed as aforesaid shall in all claims thereunder be taken to have been executed by the persons authorized to execute them under these rules, unless the contrary is proved.

Repayment of Loans and Reduction of Shares.

9.—That should the committee of management have more cash on hand than they can profitably invest, they shall have power in the first place to repay all loans contracted under the 8th rule, and, should they still have too much money, shall reduce the number of shares held by the members, the highest being first purchased down. Members may allow their surplus cash to remain in the funds of the society after the time of notice has expired, but shall not receive interest thereon.

Notice of Withdrawal.

10.—Members may withdraw any sum above 5*l.*, according to the following scale of notice:—

£2. 10s. on application to the committee.

£2 10s.	to	£5	2	weeks.	£40	to	£50	7	weeks.
5	„	10	3	„	50	„	60	8	„
10	„	20	4	„	60	„	70	9	„
20	„	30	5	„	70	„	80	10	„
30	„	40	6	„	80	„	90	11	„

£90 to £100, 12 weeks.

Withdrawal or Exclusion.

11.—A member who has paid up all his subscriptions may withdraw from the society, on giving notice to the secretary of his intention, in writing; and any member may withdraw without paying up all his subscriptions, with the consent of a majority of the members of the committee of management. Upon the withdrawal or exclusion of any member, he shall receive payment of the capital advanced by him, with all arrears of interest and profits, if any, within six months after such withdrawal or exclusion. Any member having participated in the profits shall, in case of withdrawal from the society, forfeit such sum (not exceeding 2*s.*) as the committee of management may think proper; such forfeits to be applied to the reduction of the value of the fixed stock.

Cases of Distress.

12.—A member being in distress may withdraw any sum he may have in the funds of the society above 2*l.*, at the discretion of the committee of management.

Deceased Members' Shares.

13.—If any member dies intestate, and without having exercised the power of nomination given in rule 14, leaving a widow or widower, the committee of management shall repay to him or her the capital subscribed by such member, with all arrears of interest and dividends thereon, within two months after they receive notice of his or her death, in case the shares as to which such member so dies intestate are less than thirty, and if more than thirty according to the scale of notice in the 10th rule; and if he or she so dies not leaving a widow or widower, but having any child under twenty-one, the said committee shall, within such time as aforesaid, either pay such monies to such child or children, and if more than one, equally, or apply the same for his, her, or their benefit, and in either case without requiring any fine; and if any member so dies intestate without leaving any widow or widower, or child under twenty-one, the said committee shall pay all monies due in respect of such shares to any person who would be entitled

Names.

ROCHDALE PIONEERS *cont.*—

to a share of his or her estate under the statute for distribution of the property of intestates; and if any member dies leaving a will, the said committee shall, on production of the probate or letters of administration of such will, pay over such monies to the executors or administrators of such will, within such time as aforesaid, after they receive notice of the death of the testator.

Nomination by Members.

14.—The secretary shall keep a book in which a member may nominate in writing the person to whom his shares and interest shall, on his decease, be transferred, such person being the husband, wife, father, mother, child, brother or sister, nephew or niece of such member. Any member may revoke such nomination by a written notice to that effect signed by himself; and it shall be the duty of the secretary to see such nomination erased. The member to pay threepence to the management fund for each nomination or revocation. The secretary neglecting to ask a new member to nominate within three months of his admission to forfeit threepence. The committee of management may, if they think fit, instead of making such transfer, pay to any person or persons so nominated the full value of the interest of the member at the time of his death.

Transfer of Deceased Members' Shares.

15.—Upon the death of any member, the person nominated as aforesaid, or, in the event of there being no such nominated person, the legal personal representative of such deceased member, shall, within one month thereafter, give notice thereof in writing to the secretary, stating the christian and surname, place of abode, and profession or business of such nominated person or legal representative, as the case may be, in order that the shares of the deceased member may be registered in the name of such nominated person or legal representative, or of such other person entitled thereto, as he or she shall by such notice direct, or in default shall pay a fine of one shilling per share; and upon such notice being given the share or shares of such deceased member shall be transferred into the name of such nominated person or legal representatives, as the case may be, or such other person or persons entitled thereto, as such representative shall direct, with the option of purchase by the committee of management as aforesaid.

Reduction of Fixed Stock.

16.—The fixed stock shall be reduced in the following manner; viz.:—A deduction after the rate of 10 per cent. per annum shall be taken quarterly from the value of such fixed stock, and also all monies received for admission or withdrawal.

Interest on Shares.

17.—Each member shall receive out of the surplus receipts of the society, after providing for the expenses thereof, in each year, interest not exceeding 5 per cent. per annum upon the capital standing to his account in the books of the society, as is declared at the quarterly meetings of the society.

Division of Profits.

18.—The net proceeds of all business carried on by the said society, after paying or providing for the expenses of management, interest on loans, the proper reduction in value of fixed stock, and for such interest upon the subscribed capital thereof as aforesaid, shall from time to time be applied, by direction of the ordinary quarterly meetings thereof, either to increase the capital or business of the society, or to any provident purpose authorized by the laws in force in respect to friendly societies; and the remainder, less 2½ per cent. for educational purposes, shall be divided among the members of the society in proportion to the amount

Names.

ROCHDALE PIONEERS —*cont.*

of their purchases at the store during the quarter. The profits on goods supplied to non-members shall be placed to a reserve fund for the purpose of reducing the fixed stock account, or to any provident purpose that any quarterly meeting may determine.

Education Fund.

19.—That a separate and distinct account shall be kept of the allowance for educational purposes, which shall be under the management of a special committee of 11 members, six of whom shall be appointed at the quarterly meeting in April, and five at the October meeting, and retire alternately. The educational committee shall be held responsible to the quarterly meetings of the society for the proper disposal of the fund placed under their care, and shall not be allowed to vote away any portion thereof to be spent or disposed of by any other party.

Officers of the Society.

20.—That the management of this society shall be vested in a committee, consisting of the president, treasurer, secretary, and eight committee-men, to be elected at the first general meeting to be held after these rules shall have been certified; and afterwards, that the president, treasurer, secretary, and three committee-men shall be elected at the general meeting to be held in the month of January, and the remaining five committee-men at the general meeting to be held in the month of July in each year, the retiring officers being eligible for re-election. But if, through death, resignation, or otherwise, a vacancy should occur amongst the officers of this society, a special general meeting of the members shall be called, at which meeting another or others shall be elected to fill such vacancy or vacancies. That no person be eligible for a committee-man who has not been a member of the society six months, or eligible for president who has not been a committee-man.

Management of Business.

21.—The general management of the society shall, subject to the provisions herein-after contained, be in the committee of management, who shall have the control of all business carried on by or on account of the society, the determination of the persons to be employed therein, and the rates of payment to be made in such business, the appointment of salesmen or other servants necessary for conducting the same, and may assign to any such servants such duties and salaries as they may think fit. All members of the society shall, in respect of any work or service which they may perform for or on behalf of the society, be paid after such rate of payment as the committee may determine.

Mode of conducting Business.

22.—All monies received on account of contributions, donations, admissions, fines, or otherwise shall be paid to an account to be opened with some bank selected by the committee of management in the name of the society, unless the finances of the society are too small to allow of such an account being kept, in which casethey shall remain under the care of the treasurer; and all such monies shall be applied towards carrying out the objects of the society, according to the rules thereof. And so much of the funds of the society as are not wanted for immediate use, or to meet the usual accruing liabilities, under the provisions aforesaid, shall, with the consent of the quarterly meeting, or a special general meeting of the members, be invested by the committee of management. The business of the society shall be conducted for ready money.

Investment of surplus Capital.

23.—The committee of management, by the authority of a quarterly meeting, shall invest any part of its funds not required by this society in the stock or shares of any other society or company with limited liability, and in every such investment may

Names.

ROCHDALE PIONEERS *cont.*—

nominate persons who are members of this society as representatives, and this society shall be responsible for all calls or liabilities due in respect thereof; and every representative of this society shall have the same right of voting, according to the constitution of the said society or company in which the investment is made, as if the same stood in his own name.

Duties of Committee of Management.

24.—The committee of management shall meet every Thursday evening at half-past 7 o'clock, and any six of the committee shall form a quorum. It shall in all things act for and in the society's name, and all acts and orders under the powers delegated to it shall have the like force and effect as if they were the acts and orders of a majority of the members of the society at a general meeting thereof. Every question at such meeting shal be decided by a majority of votes. Any two of the committee may call a special meeting thereof by giving one clear day's notice in writing to the secretary; but at such special meeting no other business than that specified in the notice shall be taken into consideration. The committee shall convene all meetings of the society on such requisitions as are herein mentioned, and shall also cause the accounts of all business carried on on behalf of the society to be regularly entered in proper books, and shall cause a statement of the accounts of the society, with all necessary vouchers, up to the Tuesday following the 15th day of the months of March, June, September, and December in each year, to be made out, and laid before the persons appointed to audit the same not less than 10 days before the day appointed for the quarterly meeting of the society. All other committees, whether educational or otherwise, which are or may be formed in connexion with this society, shall be subject to the above committee, the committee of management being ex-officio members of all the others.

Duties of President.

25.—The president shall act as chairman at all meetings of this society; and should he not be present at any of the society's meetings, the officers and members present shall select one from amongst themselves to act as chairman on that occasion. The president, or chairman acting in his absence, shall sign all contracts, also the minutes of the proceedings at each of the society's meetings, and shall have the casting vote, besides his own vote as a member.

Duties of Secretary.

26.—The secretary shall give his attendance at all meetings of the society, and of the committee of management; summon all special meetings of the committee, and record correctly the names of the said committee there present, and the minutes of their proceedings, which he shall transcribe into a book, to be authenticated by the signature of the chairman as the proceedings of the meetings. He shall countersign all contracts, receive proposals for admission, and keep the accounts, documents, and papers of the society in such manner and for such purpose as the said committee may appoint; and shall prepare the annual and other returns required to be sent to the registrar of friendly societies in England. He shall receive the contributions, fines, and other payments due to the society, and at the close of every meeting pay the same to the treasurer. The secretary shall, on all occasions in the execution of his office, act under the superintendence, control, and direction of the said committee. An assistant secretary may at any time be appointed by the committee of management.

Duties of Treasurer.

27.—The treasurer shall be responsible for such sums of money as may from time to time be paid inio his hands by the secretary or by any person on account of the soeiety, and for the investment or application of the same under the authority of the com-

Names.

ROCHDALE PIONEERS —*cont.*

mittee of management, in such manner as they shall direct. He shall balance his cash account weekly, and supply the secretary with a duplicate thereof, and shall, if required, attend every general meeting.

Security from Officers and others.

28.—Every person appointed to any office touching the receipt, management, or expenditure of money for the purposes of the society, shall, before entering upon the duties of his office, give such security as is thought sufficient by the committee of management for the time being.

Payment of Officers.

29.—At any quarterly meeting of the society, the majority of the members present may assign to the committee, treasurer, secretary, auditors, or any other officer of the society, such remuneration as seems to them desirable.

Servants not to be Officers.

30.—That no servant of this society shall serve any office in the committee of management, or be an auditor on any account whatever.

Disqualification of Committeemen.

31.—Any member of the committee of management shall vacate his office if he holds any other office or place of profit under the society; if he becomes bankrupt or insolvent; if he is concerned in or participates in the profits of any contract with ths society. But the above rule shall be subject to the following exceptions: That no committeeman shall vacate his office by reason of his being a member of any company or society which has entered into contracts with, or done any work for the society of which he is a committeeman. Nevertheless, he shall not vote in respect of such contract or work; and if he does so vote, his vote shall not be counted.

Duties of Auditors.

32.—There shall be two or more auditors of the society, to be elected at the first and third quarterly meetings in each year, and to retire alternately, and shall be eligible for re-election. They shall audit the accounts of the society, and see that they are correctly kept, and shall lay before each quarterly meeting a balance sheet of the receipts and expenditure, and also of the assets and liabilities of the society, signed by them, with a statement of the society's affairs since the last quarterly meeting, and of its then condition. They shall have power to call for and examine all papers and documents belonging to the society.

General and Quarterly Meetings.

33.—That general meetings of the members be holden on the first Mondays in each month, at half-past seven o'clock in the evening; and that the meetings on the first Mondays in January, April, July, and October be the quarterly meetings of the society, at which meetings the officers shall make their report, in which shall be specified the amount of funds and value of stock possessed by the society.

Purposes of Ordinary General Meetings.

34.—That the ordinary general meetings of the members be, —1st, for the approval or rejection of candidates wishing to become members of the society. 2nd, the reading of the minutes of the committee. 3rd, for discussing the affairs of the society. 4th, for explaining the principles and rules of the society. 5th, making suggestions for the guidance of the committee of management.

Names.

ROCHDALE PIONEERS —*cont.*

Educational General Meetings.

35.—The general meetings of the educational department shall be held on the third Mondays in January, April, July, and October, at half-past seven o'clock in the evening, for the purposes following: For receiving the report of the committee; for empowering the committee to make special arrangements for extending the sphere of this department; and other business connected therewith. The educational committee shall not be allowed to take any new premises without the sanction of the committee of management, or a quarterly meeting of the society.

Special General Meetings.

36.—A special general meeting may be convened at any time, in virtue of a resolution of the committee, by a notice being posted in the meeting room and the principal places of business of the society, specifying the time and objects of the meeting, six clear days at least before the meeting; or by any twenty members on giving, in like manner, six clear days' notice thereof in writing, specifying the object, signed by them.

N.B.—No other business can be transacted at any such meeting than the business specified in the notice convening it.

Place of and Number constituting a Meeting.

37.—All general meetings shall be held at the chief place of business of the society, or at such other place as any such quarterly meetings may determine; and no meeting of the society shall proceed to business unless at least twenty members of the society be present within one hour of the time of meeting, otherwise such meeting, if it be the ordinary quarterly meeting of the society, or a special general meeting convened by the committee of management, shall stand adjourned to that day week; but if it be convened by notice from the members shall be absolutely dissolved. But any general meeting may adjourn from time to time for any period not exceeding fourteen clear days; and no meeting shall be rendered incapable of transacting business by the want of a quorum after the chair has been taken.

Officers not to nominate or second Colleagues.

38.—That no committeeman, president, secretary, or treasurer, while in office, shall be allowed to nominate or second any member to serve on the committee of management.

Votes.

39.—At all meetings of this society each member shall have one vote only.

Complaints and Suggestions.

40.—If any member have any complaint to make relative to the qualities or prices charged for goods supplied by the society, or respecting the conduct of any of the servants or officers of the society, such complaint shall be sent to the committee in writing, signed by the member complaining, or some other member on his or their behalf, and shall be investigated and decided upon by the committee, such decision to be entered in their minute book; and if satisfaction be not given by their decision, the same shall be brought before a general meeting of the members, and, if not then settled to the satisfaction of the parties complaining, shall be referred to a quarterly meeting, whose decision shall be final. Any member may likewise send to the committee, in writing, any suggestion for carrying into better effect the objects of the society, which shall be considered by the committee.

Injurious Conduct.

41.—The committee of management may suspend any member who persists in any conduct injurious to the society, until they submit the same to a general meeting (of which the offender

Names.

ROCHDALE PIONEERS —*cont.*

shall have three clear days' notice), who shall have power to expel such member, or otherwise as they may think fit. No person so expelled shall again be re-admitted, except by the votes of a majority of the members present at a general meeting, nor unless notice has been given at the last previous general meeting of the intention to propose his re-admission.

Disputes.

42.—That in case of a dispute between this society and any of its members, or of members, or persons claiming on account of a member, or under the rules, or of any complaint against any member or officer, application may be made to the committee of management for redress; but should the party not receive satisfaction, appeal may be made to a general meeting of the members of the society, whose decision shall be final and binding, except reference be made to arbitration. The costs of reference to arbitration shall be paid by such party, or by the parties in such proportion as the arbitrators shall direct; and the parties requiring the arbitration shall, previous to the matter being gone into, deposit with the secretary the sum of 10*s.* to abide the result.

Arbitration of Disputes.

43.—If any dispute arise between any member or person claiming under or on account of any member or under the rules, and the committee of management thereof, and not settled according to the foregoing rule, it shall be referred to arbitration, for which purpose at the second meeting of the society after these rules are certified by the registrar, five arbitrators shall be named and elected, none of them being directly or indirectly beneficially interested in the funds of this society; and in each case of dispute the names of the arbitrators shall be written on pieces of paper, and placed in a box or glass, and the three whose names are first drawn out by the complaining party, or by some one appointed by him, shall be the arbitrators to decide the matter in difference. In case of a vacancy another arbitrator shall be elected at the first general meeting thereafter.

Alteration of Rules.

44.—No new rule shall be made, nor any of the rules herein contained or hereafter to be made shall be repealed or altered, except by the vote of a majority of two-thirds of the members present at a general meeting of the society, to be called in pursuance of a requisition by twenty or more members, by fixing such requisition and setting forth the day of holding such meeting, in the place where the business of the society is transacted, six weeks next before such general meeting.

Notice of Removal of Registered Office.

45.—In case of any alteration in the place of the registered office of the society, notice shall be sent to the registrar of friendly societies forthwith, signed by the secretary or other principal officer of the society, and also by three or more of the members of the society.

Construction of Rules.

46.—In construing these rules, words importing the masculine gender shall be taken to apply to a female; words importing one person or thing only shall be taken to apply to more than one person or thing; and words importing a class shall be taken to apply to the majority of that class, unless there is something in the context to prevent such a construction.

THOMAS CHEETHAM.
JOHN RANDLE.
ERNEST HARTLEY.
BENJAMIN RUDMAN.
JAMES BUTTERWORTH.

SAMUEL NEWTON, President.
THOMAS WARD, Treasurer.
JOHN POTTS, Secretary.

Names.

ROCHDALE PIONEERS —*cont.*

REGISTRAR'S CERTIFICATE.

I hereby certify that the forgoing Rules of the Rochdale Equitable Pioneers' Society, Limited, at Rochdale, in the county of Lancaster, are in conformity with law.

JOHN TIDD PRATT,
Registrar of Friendly Societies in England,
16th March 1863.

Copy kept,
J. Tidd Pratt.

2. Statement of Accounts.

To the Members of the Rochdale Equitable Pioneers' Society, Limited.

The committee of management have pleasure in submitting for your perusal a statement of the Society's accounts for the quarter ending December 18th, 1866, which, it is hoped, will be found satisfactory to all the members.

The affairs of the Society, we are happy to say, are in a prosperous condition, and the number of members steadily increases; the total names on the roll at the close of this quarter being 6,246.

You will see from the annexed statement that the total amount of cash received during the quarter for goods sold is 68,216*l.* 18*s.* 3½*d.*, being an increase on the corresponding period of last year of 13,042*l.* 8*s.* 0½*d.*

The profit for the quarter amounts to 9,281*l.* 16*s.* 9*d.*, which, after allowing 353*l.* 5*s.* 0½*d.* for the reduction of the fixed Stock, 1,013*l.* 15*s.* 0½*d.* for interest on capital invested, and 197*l.* 9*s.* 3*d.* for the Educational Fund, will allow a dividend of 2*s.* 5*d.* on each one pound cheque brought in.

The gross profit for the year is 31,931*l.* 3*s.* 9½*d.*

Yours respectfully,
For the Committee of Management,
JOHN BRIERLEY, Secretary.

THE ROCHDALE EQUITABLE PIONEERS' SOCIETY, LIMITED.

EIGHTY-EIGHTH QUARTERLY REPORT, ending December 18th, 1866.

CASH ACCOUNT.

Dr.		*Receipts.*	£	*s.*	*d.*
Cash, balance from September Report, 1866			1,307	0	6½
,,	Grocery.	Toad Lane, retail - 12,926 9 7			
,,		,, wholesale - 868 18 2			
,,		Oldham Road, retail - 5,289 7 4			
,,		School Lane ,, - 7,231 12 8			
,,		Whitworth Road ,, - 6,333 19 0			
,,		Pinfold ,, 4,554 19 9			
,,		Spotland Bridge ,, - 4,377 8 3			
,,		Bamford ,, - 1,953 14 8			
,,		Wardleworth ,, - 3,592 1 3			
,,		Bluepits ,, - 2,596 2 5			
,,		Buersill ,, - 4,095 19 0			
,,	Cheetham Street, drapery -		3,900	10	0
,,	,, wholesale		19	18	11
,,	Toad Lane, tailoring -		557	10	0
,,	,, butchering, retail		2,160	0	0
,,	,, ,, wholesale		12	17	4½
,,	,, hides, fat, &c. -		654	8	7
,,	Oldham Road, butchering -		819	10	0
,,	School Lane ,, -		708	0	0
,,	Whitworth Road ,, -		939	10	0
,,	Pinfold ,, -		937	0	0
,,	Spotland Bridge ,, -		622	10	0

Names.

ROCHDALE PIONEERS —*cont.*

Cash	Bamford, butchering	-	198	0	0		
„	Bluepits „	-	214	10	0		
„	Buersill „	-	664	10	0		
„	Toad Lane, shoemaking	-	998	10	0		
„	Oldham Road „	-	57	10	0		
„	Whitworth Road „	-	65	10	0		
„	Toad Lane, clogging	-	309	10	0		
„	Oldham Road „	-	174	0	0		
„	Whitworth Road „	-	65	0	0		
„	Toad Lane, pork butchering		11	15	4		
„	„ wholesale	-	305	16	0		
						68,216	18 3½
„	Rochdale Co-operator's Loan Fund				-	14	5 0
„	Coal department - - -				-	29	11 10
„	Rules - - - -				-	5	1 3
„	Rents - - - -				-	33	9 8
„	Propositions - - -				-	27	17 0
„	Subscriptions from members				-	6,679	16 1
„	Commission for changing money				-	7	9 2½
„	Interest from Land and Building Company					25	0 0
„	Manchester and Liverpool District Bank				-	14,000	0 0
						£90,346	8 10½

Cr.	*Payments.*				£	*s.*	*d.*
By cash paid as under:							
„	Grocery department -	52,433	7	9			
„	Drapery „ -	3,440	13	1			
„	Tailoring „ -	426	16	4			
„	Butchering „ -	5,596	10	7½			
„	Shoemaking „ -	537	10	11			
„	Clogging „ -	312	3	4			
„	Pork butchering „ -	2,103	18	2			
					64,851	0	2½
„	Carriage of goods -			-	665	14	0
„	Rents - -			-	117	12	0
„	Withdrawals by members			-	8,233	9	1
„	Additions to fixed stock			-	1,623	7	3½
„	Trade cheques purchased			-	269	3	11
„	Wages to shopmen -	1,027	1	7			
„	„ workmen -	673	19	8			
					1,701	1	3
„	Hay, straw, provender, &c.	55	5	9			
„	Printing and stationery -	39	1	6			
„	Coals and coke - -	1	4	3½			
„	Insurances - -	1	4	6			
„	Rates and gas - -	32	2	9			
„	Auditing - -	14	12	0			
„	Repairs - - -	86	17	8			
„	Incidental expenses -	78	18	11			
„	Treasurer's salary - -	6	5	0			
„	Property tax - -	7	2	2			
„	Committee of management	6	10	0			
„	Social science - -	20	11	0			
					349	15	6½
„	Northern Counties' Idiot and Imbecile Asylum, donation - - -				52	10	0
„	Rochdale lifeboat - - -			-	50	0	0
„	Mary Ratcliffe, gift - - -			-	10	0	0
„	Rochdale Equitable Pioneer's Society, Limited, Coal Department -			-	150	0	0
„	Educational department -			-	183	0	0
„	Deposited in the M and L district bank			-	9,000	0	0
„	Balance - - -			-	3,089	15	7
					£90,346	8	10½

Names.

ROCHDALE PIONEERS —*cont.*

TRADE ACCOUNT.

Dr.	£	s.	d.
To Sock in trade, September quarter, 1866	17,674	4	5½
„ Accounts owing to the society	160	18	10
„ Cash paid for goods, as per cash account	64,851	0	2½
„ carriage	665	14	0
„ „ rents	117	12	0
„ „ wages	1,701	1	3
„ „ current expenses	349	15	6½
„ Owing to tradesmen for goods	81	15	9
„ Balance	7,599	10	11½
	£93,201	13	0

Cr.	£	s.	d.
By accounts owing to tradesmen for goods, as per September, 1866, Report	32	14	7
„ Cash for sales, as per cash account	68,216	18	3½
„ Accounts owing to society by stores and others	139	10	7½
„ Stock in trade	24,812	9	6
	£93,201	13	0

PROFIT AND LOSS ACCOUNT.

Dr.	£	s.	d.
Amount disposable	9,281	16	9

Cr.	£	s.	d.
By Balance, as per last Report 8,322 7 10½			
„ Disposed of in interest, dividends, &c. 8,286 10 4½			
	35	17	6
„ Gain for the quarter, as per trade account	7,599	10	11½
„ Profits realised on purchases at Rochdale District Co-operative Corn Mill Society, Limited	1,176	9	4
„ Interest realised on capital invested in Rochdale District Co-operative Corn Mill Society, Limited	234	1	0
„ Interest realised on capital invested in the Rochdale Co-operative Land and Building Company, Limited	25	0	0
„ Interest and dividend in the North of England Wholesale Society	107	9	0
„ Interest and dividend in coal department	29	11	10
„ Rents, as per cash account	33	9	8
„ Propositions	27	17	0
„ Commission	7	9	2½
„ Rules	5	1	3
	£9,281	16	9

CAPITAL ACCOUNT.

Dr. *Liabilities.*	£	s.	d.
To amount of member's claims, as per ledger	89,247	17	10
„ „ guarantee funds	68	19	0½
„ „ reserve fund	715	4	3
„ „ loan fund	413	18	0
„ Owing to tradesmen for goods	81	15	9
„ Educational fund	180	4	4½
„ Balance	9,281	16	9
	£99,989	16	0

Names.

ROCHDALE PIONEERS —*cont.*

Assets.

Cr.	£	s.	d.
By investments in the Rochdale District Co-operative Corn Mill Society, Limited	20,159	14	3
„ Investments in the Rochdale Co-operative Manufacturing Society, Limited	13,251	19	3
„ Investments in the Rochdale Co-operative Land and Building Company, Limited			
„ Investments in the North of England Wholesale Industrial and Provident Society, Limited	1,276	0	1
„ Amount in Rochdale branch of the Manchester and Liverpool District Bank	21,944	6	8
„ Investments in the Rochdale Pioneers' Coal Department	300	0	0
„ Fixed stock account	13,016	0	0½
„ Trade accounts owing to the Society	139	10	7½
„ Stock in trade	24,812	9	6
„ Cash in treasurer's hands 2,575 9 5½			
„ „ clerk's „ 514 6 1½	3,089	15	7
	£99,989	16	0

PROPOSED DISPOSAL OF THE BALANCE.

	£	s.	d.
To depreciation of fixed stock, at the rate of 10 per cent. per annum 325 8 0½			
„ Proposition money 27 17 0	353	5	0½
„ Interest on 81,100*l.* paid up 1*l.* shares	1,013	15	0
„ Interest on guarantee, reserve, and loan funds	16	8	3
„ Educational fund on net profits, 7,898*l.* 10*s.* 11*d.* at 2½ per cent.	197	9	3
„ Dividend on 59,816*l.* purchase cheques, at 2*s.* 5*d.*	7,227	15	4
„ „ 3,230*l.* „ „ 1*s.* 8*d.*	269	3	4
„ Profit to reserve fund on 3,320*l.* non-members' purchases, at 9*d.* in the £	121	2	6
„ Balance	82	18	0½
	£9,281	16	9

	£	s.	d.
By balance, profit	9,281	16	9

Examined and found correct,
THOMAS JACKSON,
JAMES LORD,
JOSEPH BUTTERWORTH,
} Auditors.

EDUCATIONAL DEPARTMENT ACCOUNT.

Dr. *Receipts.*	£	s.	d.
To Cash from Educational Fund	213	0	0
„ Use of Instruments	0	6	8
„ Fines, &c.	0	4	5
„ Sale of Newspapers:			
„ Toad Lane	3	5	7
„ Oldham Road	1	11	0
„ Whitworth Road	2	1	2½
„ Pinfold	1	8	1½
„ School Lane	1	6	11
„ Spotland Bridge	1	7	11
„ Blue Pits	0	14	0
„ Bamford	0	11	10
„ Wardleworth Brow	1	3	4
„ Buersill and Lowerplace	0	17	2½
	£227	18	2½

Names.

ROCHDALE PIONEERS —*cont.*

Cr.	*Payments.*	£	*s.*	*d.*
By Balance due to Treasurer		1	0	1
„ New Books		71	3	0
„ Newspapers		50	16	6
„ Bookbinding, &c.		22	5	3½
„ Wages, Librarian		16	5	0
„ „ Assistant to do.		0	10	0
„ „ Newsroom keepers		16	18	0
„ Furniture, Buersill, &c.		5	18	6
„ Stationery		1	14	4
„ Incidental expenses		6	3	0½
„ Balance on hand		35	4	5½
		£227	18	2½

Examined and found correct,
THOMAS JACKSON,
JAMES LORD,
JOSEPH BUTTERWORTH,
} Auditors.

THE ROCHDALE EQUITABLE PIONEERS' SOCIETY LIMITED.—COAL DEPARTMENT.

FIRST QUARTERLY REPORT, ending November 30th, 1866.

CASH ACCOUNT.

Dr.	*Receipts.*	£	*s.*	*d.*
To Cash from the Rochdale Equitable Pioneers' Society, Limited		300	0	0
„ „ Corn Mill Society, Limited		150	0	0
„ „ Manufacturing Society, Limited		300	0	0
„ Received for coal		509	15	8½
		£1,259	15	8½

Cr.	*Expenditure.*	£	*s.*	*d.*
By cash for coal, carriage, waggon hire, &c.		397	6	6
„ „ Lancashire and Yorkshire Railway Co.		48	14	0
„ „ Carriage, Richard Lord		34	10	0
„ Wages		30	18	0
Fixed Stock.				
„ New waggons	528 0 0			
„ Preliminary expenses	7 18 7			
„ New office, &c.	7 10 0			
„ Books, shovels, &c.	4 1 0			
		547	9	7
„ Stationery		3	15	0
„ General expenses		4	10	4
„ Balance on hand, cash		192	12	3½
		£1,259	15	8½

TRADE ACCOUNT.

Dr.	£	*s.*	*d.*
To cash paid for coal, as per cash account	397	6	6
„ Carriage (including our own waggon hire, 12*l.* 11*s.*)	61	5	0
„ Cartage	34	10	0
„ Wages	30	18	0
„ Current expenses	8	5	4
„ Owing to tradesmen for coal, &c.	260	10	3
„ Balance—gain	45	9	10½
	£838	4	11½

Names.

ROCHDALE PIONEERS —*cont.*

Cr.	£	s.	d.
By cash received for coal	509	15	8½
„ Accounts owing to Society	304	13	6
„ Stock in trade	23	15	9
	£838	4	11½

CAPITAL ACCOUNT.

Dr. *Liabilities.*	£	s.	d.
To Rochdale Equitable Pioneers' Society, Limited	300	0	0
„ „ Corn Mill Society, Limited	150	0	0
„ „ Manufacturing Society, Limited	300	0	0
„ Accounts unpaid	260	10	3
„ Balance to profit and loss account	45	9	10½
	£1,056	0	1½

Cr. *Assets.*			£	s.	d.
By fixed stock, as per cash account	547	9 7			
„ Less depreciation, as waggon hire	12	11 0			
			534	18	7
„ Trade accounts owing to the Society			304	13	6
„ Stock in trade			23	15	9
„ Cash on hand			192	12	3½
			£1,056	0	1½

PROFIT AND LOSS ACCOUNT.

	£	s.	d.
To interest on capital	3	16	0
„ Dividend on house coal, 217*l.* 12*s.* 6*d.*, at 2*s.* 6*d.* in the pound	27	4	2
„ „ steam coal, 512*l.* at 6*d.* in the pound	12	16	0
„ Balance to reserve fund	1	13	8½
	£45	9	10½

	£	s.	d.
By balance brought down	45	9	10½
	£45	9	10½

Examined and found correct,
THOMAS JACKSON, Auditor.

3. Copy of Chambers' Social Science Tract, "Co-operation in its Different Branches."
4. Information for Co-operative Societies.
5. Society's almanac.
6. History of Co-operation in Rochdale.

WHITSTABLE FREE FISHERS.

1. Rules and Regulations of the Society.
2. A copy of the Act of Incorporation of the Company.

18.

IV.—SAILORS' HOMES.

Names.	**1. Name of the establishment.** *a.* **Where situated.** *b.* **Full postal address.**
Belfast Sailors' Home.	Belfast Sailors' Home. *a.* Corporation Street. *b.* Belfast.
Cork Sailors' Home.	Royal Sailors' Home. *a.* Cork City. *b.* Cork, Ireland.
Cornwall Sailors' Home.	"The Royal Cornwall Sailors' Home and Infirmary for Seamen of all Nations." Falmouth, Cornwall.
Devonport Sailors' Home.	Royal Naval Sailor's Home. Duke Street, Devonport, Devon.
Dover Sailors' Home.	Dover Sailors' Home. Refuge for the shipwrecked, and soldiers' and sailors' reading room. In Blenheim Square, Dover.
Dublin Sailors' Home.	Dublin Sailors' Home. Sir John Rogerson's Quay, Dublin.
Glasgow Sailors' Home.	The Glasgow Sailors' Home. Broomielaw, Glasgow.
Liverpool Sailors' Home.	The Liverpool Sailors' Home. *a.* Canning Place. *b.* Liverpool.
London Sailors' Home.	Sailors' Home. Well Street and Dock Street, London Docks, E.
Portsmouth Sailors' Home.	Portsmouth Royal Sailors' Home. Queen Street, Portsea.
Queenstown Sailors' Home.	Queenstown Sailor's Home. Queenstown, County Cork, Ireland.
Sunderland Sailors' Home.	Sunderland Sailors' Home. *a.* Prospect Row near the Docks. *b.* Sailors' Home, Sunderland.
Swansea Sailors' Home.	Swansea Sailor's Home. Swansea, Glamorganshire, South Wales.

	2. Name of the proprietor, or body of proprietors.
Belfast	Mr. Minnock, Superintendent.
Cork	H.R.H. Prince of Wales, patron; vice patrons, the two Bishops of Cork, viz., Protestant and Catholic; Earl of Bandon; Earl of Cork.
Cornwall	The premises are held in trust by a deed lodged in the Cornwall Bank on the part of Mr. William Carne and Mr. R. M. Tweedy, and the donors and subscribers of the second part.
Devonport	Governors and Managing Committee.
Glasgow	A committee appointed by the subscribers, who built and furnished the home.
Liverpool	Certain life governors who have subscribed not less than 100*l.*, and life members who have subscribed not less than 25*l.*, and annual subscribers of not less than 1*l.* 1*s.*
Portsmouth	The Directors.
Queenstown	Trustees, Committee and Secretary.
Sunderland	Trustees. Chairman, James Laing, Esq.
Swansea	The president, vice-president, and committee.

Names.	**3. Name in full, description and address of the correspondent or secretary of the institution.**
BELFAST	Chevalier Gustavus Heyn, Royal Belgian Consul, Ulster Chambers, Waring Street, Belfast.
CORK	Capt. Thomas Stuart, Royal Navy, Hon. Sec. Sailors' Home, Cork, Ireland.
CORNWALL	Alfred Benjamin Duckham, secretary and superintendent, Arwenack Street, Falmouth.
DEVONPORT	F. W. Bateman, Staff Commander, R.N., 9, St. Jean d'Acre Terrace, Stoke, Devonport, Hon. Sec.
DOVER	Rev. W. Yate, Minister of St. John's Mariners' Church, Dover.
DUBLIN	Richard Marshall, Sailors' Home, 8, John Rogerson's Quay Dublin.
GLASGOW	Henry Lamond, Solicitor, 64, West Regent Street, Glasgow.
LIVERPOOL	Thomas Hanner, secretary and manager, Sailors' Home, Canning Place, Liverpool.
LONDON	William Henry Webb, Captain, R.N., Sailors' Home, Well Street and Dock Street, London Docks, E.
PORTSMOUTH	James Lyon Thorne, Esq., R.N.; Portsmouth Royal Sailors' Home, Queen Street, Portsea.
QUEENSTOWN	Captain John Moresby, Royal Navy, The Glen, Queenstown.
SUNDERLAND	James Milne, Sailors' Home, Sunderland.
SWANSEA	Present secretary *pro tem.* James C. Richardson, Glanrafon, Swansea.

Names.	**4. Principal object of the establishment.**
BELFAST	For the benefit of seafaring men.
CORK	For the protection of seamen of all nations, whether on shore, paid off, on duty, or on leave of absence, shipwrecked or distressed.
CORNWALL	To promote the welfare of seamen.
DEVONPORT	To provide a comfortable home for seamen when on shore or waiting to join a ship, as well as to protect them against crimps or other designing persons.
DOVER	To provide a home for paid-off sailors, a refuge for shipwrecked men of *all* nations; to relieve distressed seamen when their case is proved, and to attempt the resuscitation of the apparently drowned.
GLASGOW	The amelioration and comfort of merchant seamen frequenting the port of Glasgow.
LIVERPOOL	The immediate objects, to provide for seamen board, lodging, and medical attendance at a moderate charge; to protect them from impostion and fraud, and to encourage them to husband their hard-earned wages; to promote their moral, intellectual, and professional improvement; and to afford them the opportunity of receiving religious instruction.
LONDON	To raise the character and improve the habits of seamen, by bringing them under the power of religious instruction and within the influence of moral restraint, and provide them with a board and lodging house. *Vide* Fundamental Rule No. 1.
PORTSMOUTH	To give all seamen and marines a safe, respectable, comfortable, and inexpensive place of resort while on shore in this lacality.
QUEENSTOWN	The benefit of seamen of all nations, the security of their money and effects, and the free support of a limited number of distressed seamen.
SUNDERLAND	The protection, moral improvement of the character and social condition of seamen.

Names.	
Swansea	To afford comfortable and respectable board and lodging to seamen of all nations frequenting the port of Swansea, and a place of refuge to the shipwrecked and distressed mariner.

5. By whom was it formed?

Belfast	A number of Belfast merchants.
Cork	Capt. Thos. Stuart, R.N.
Cornwall	On September 1st, 1851, by the following gentlemen:—Captain Hall, R.N., Captain Skeen, R.N., Lieut. Croke, R.N., Alfred Fox, Esq., Captain Miller, Thomas Hubbard, John Shelly, and A. B. Duckham, Esquires.
Devonport	Naval officers.
Dover	Rev. W. Yate.
Dublin	Rear-Admiral W. H. Hall, C.B.
Glasgow	Spontaneously by a few benevolent gentlemen in Glasgow, most prominent among whom were William Euing, A. S. Dalglish, Sir James Campbell, Sir Andrew Orr, and W. P. Paton. Mr. Euing has not only subscribed 2,000 guineas, but has also advanced money and given his time for 10 years gratuitously in its behalf.
Liverpool	A committee of Liverpool shipowners and merchants.
London	Captain Robert James Elliot, R.N., (deceased), Captain George C. Gambier, R.N., (now Admiral), and Lieutenant Robert Justin, R.N. (now Captain).
Portsmouth	By officers of the Royal Navy and others in 1849, including Admiral Sir W. H. Hall, Sir Edward Parry, Robert F. Gambier, Sir F. Austen, Sir Charles Ogle, &c., &c., &c.
Queenstown	The local gentry, merchants, shipowners, and others.
Sunderland	A committee and superintendent.
Swansea	The Committee of the Sailors' Society.

6. When was it established?

Belfast	1851.
Cork	In 1853.
Cornwall	May 17, 1852.
Devonport	1852.
Dover	January 1853.
Dublin	May 1849.
Glasgow	Opened in January 1857.
Liverpool	1844 in part. 1852 complete in all its parts.
London	Instituted in 1830, opened in 1835, and enlarged in 1865.
Portsmouth	1851.
Queenstown	1854.
Sunderland	May 1852.
Swansea	Opened for seamen, 19th May, 1864.

7. Have the works of the institution ever been suspended? if so, for how long, at what date, and from what cause?

Belfast	Never.
Cork	Never; since opened in 1853.
Cornwall	No.
Devonport	No.
Glasgow	No.
Liverpool	Not altogether; in April 1860 the building was destroyed by fire, was rebuilt, and reopened in February 1862. During the interval the temporary deposit bank and the information departments were carried on.

Names.	
London	The operations of the institution have never been suspended.
Portsmouth	Never.
Queenstown	No.
Sunderland	No; continued and prospered.
Swansea	No.

8. State the number of persons at present employed, or received into the institution.

a. **Adult Males or Females.**

b. **Young persons.**

c. **Children.**

d. **And the average number in each during 10 Years.**

Belfast	Adult males, three; females two, servants. *d.* 7,000.
Cork	This is not applicable.
Cornwall	Can board and lodge 54 seamen, each having a separate bed. Daily average throughout the year 1852–53, 11, which number has continued to be about the standing average. Notwithstanding the facility since afforded through railway transit, the average for sick occupants has increased to beyond 13 days per man; the stay of convalescents has, however, decreased.
Glasgow	*a.* Adult males, 53; females, none; *b.* None. *c.* None. *d.* About 17,000 since the home was opened, of whom about 4,000 were foreigners.
Liverpool	200.
Queenstown	Seamen paying a small rate, and distressed seamen free of charge.

9. Are there any restrictions or qualifications for admission or employment in labour, namely,—

a. **Age, and at what age?**

b. **Instruction?**

c. **Apprenticeship, or other period of service?**

Belfast	No.
Cork	None as to seamen.
Cornwall	Admissions are unrestricted for seamen brought by their masters, and those sent by the consuls. Seamen generally applying for admission are readily received, if not deserters, or those known to have been guilty of disorderly conduct.
Glasgow	The only condition is that they must be merchant seamen.
Liverpool	Seldom admit under 14 years of age.
Swansea	None.

10. What is the proportion of married females employed?

Belfast	One.
Glasgow	None.
Liverpool	Employ no females.
Queenstown	None. A sailor's home.

11. What regulations are made to enable them to attend to their family and domestic duties?

Belfast	Living in the house.
Cornwall	Inmates who are employed at daily work in refitting their ships are supplied with their dinners, which they take with

Names.	
CORNWALL—*cont.*	them on going away each morning; or, if the vessels are in the docks, and it be so required, hot dinners are sent to them at mid-day.

13. Has the establishment been remunerative, or otherwise?

BELFAST	Not self-supporting.
CORK	It is not intended to be remunerative or otherwise, but in the end self-supporting, though at present no Sailors' Homes are self-supporting.
CORNWALL	Taken in a commercial point of view, at the prices charged to inmates, sailors' homes never can be remunerative or self-supporting.
GLASGOW	It has not been remunerative.
LIVERPOOL	There is a small subscription list, say 190*l.* per annum, but the Home is now almost or altogether self-supporting.
PORTSMOUTH	It is not intended to be remunerative, but it is hoped that, by degrees, it may become self-supporting.
QUEENSTOWN	Not remunerative, but supported by subscriptions and a small charge on seamen using the home.
SUNDERLAND	No, partly by public subscriptions.
SWANSEA	It has hitherto been conducted at a loss, because, unlike an ordinary boarding-house, it offers many advantages to the seamen, such as a clerk to keep their accounts, a library, playground, and games, also superior accommodation, food, and attendance, &c., &c.

14. Is any pecuniary assistance received from the Government, or from any other body not participating in the profits? If so, define its nature and amount.

BELFAST	No.
CORK	A grant of 50*l.* has been made by the Admiralty from year to year since 1860.
CORNWALL	No pecuniary assistance is received from the Government or any other body in England. The Government of the Emperor of the French contributes 5*l.* annually. Donations have been received from other foreign governments.
DEVONPORT	In consequence of the charges for board not being equal to the expenditure, the Admiralty grant 150*l.* towards the expenses annually.
GLASGOW	None.
LIVERPOOL	No.
PORTSMOUTH	Admiralty annual grant of 200*l.*
QUEENSTOWN	The Admiralty are also subscribers to the extent of 25*l.* a year.
SUNDERLAND	Not from Government, but by gentlemen of the town about 100*l.*
SWANSEA	None.

15. Has the establishment any special privilege or monopoly of any kind, and what is its nature?

BELFAST	No.
CORK	None: to protect all seafaring people.
CORNWALL	None whatever. It has to bear its burthen of local taxation in common with other properties.

Names.	
Glasgow	None.
Liverpool	No.
Portsmouth	None.
Queenstown	None.
Sunderland	No.
Swansea	None.

15a. Enclose a copy of all rules framed for the government of the establishment, or any information which may specially refer to it, and any plans of the buildings.

Cornwall	Plans of the new Home and of the newly-built hospital have not been taken.
Glasgow	Herewith transmitted the reports of the institution, four in number. No report since 1861, on account of changes of the superintendent.
Portsmouth	Annual Reports for 1852 and 1853, and 1865 and 1866 are transmitted.
Swansea	The committee decided upon not having any printed rules. Sailors dislike them, and feel that they are inimical to their freedom. Our rules are therefore only understood to be decent and proper conduct.

19. During the last five years, what has been the average yearly profit per cent., and in what proportion, and according to what principle has it been divided among—

(1.) The partners or shareholders.
(2.) The workpeople.
(3.) Any other persons.
(4.) Devoted to capital or other purposes?

Cornwall	No profit can ever be realized (see 13). A day's bill of fare :—Breakfast, fried smoked bacon, two slices, and two eggs, with bread and butter, coffee, and sugar at will. Dinner :—A feed on roast beef, vegetables, plum pudding and beer. Tea:—Beef steaks and fried onions, bread and butter, and tea, sugar, and milk. At night a separate clean bed, with means for a hot or cold bath, and his clothes washed—for 2*s.*

20. What are the daily number of hours of work at the establishment, exclusive of meal times?

Belfast	Eight hours.

23. Have dwellings, at the cost of the establishment, been provided for the workpeople?

***a.* Of what character?**
***b.* When erected?**
***c.* How many?**
***d.* At what cost?**

Cornwall	*a.* Brick. *b.* Purchased in 1863. *c.* Two. *d.* The purchase of the lease of the Home premises, refitting same to some extent, and the building of the hospital in its rear caused an expenditure of 1,000*l.*

Names.

24. What are the average weekly rents paid for such dwellings?

a. **By a family?**

b. **By a single workman?**

CORNWALL - - If seamen have the means they pay 14*s.* per week, their clothes washed (and beer) included; and 16*s.* per week if sick, which includes the day and night nursing.

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25. Are any, and what, regulations made and enforced relative to periodical cleansing of the dwellings and workshops?

CORNWALL - - The dormitories are washed out once every week, sometimes oftener; the dining room and the reading and smoking room very frequently are washed out daily by the purveyor's servants.

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26. Is there any co-operative society, or arrangement amongst the workmen for the purchase of food or clothing, and how is the management provided and paid for?

BELFAST - - No.

CORNWALL - - The food for the inmates is provided by the purveyor (as per his agreement, abstract forwarded); constantly inspected by the superintendent, and from time to time by the directors.

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27. Do the employers contribute in any way?

BELFAST - Yearly subscribers.

CORNWALL - - Each of the directors contributes towards the funds. They inspect the affairs of the Home, and attend monthly meetings, and oftener if expedient, without fee or reward.

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30. State the proportion to the average of the locality of—

a. **The Deaths of the workpeople employed.**

b. **Their marriages.**

c. **Births—Legitimate.**

d. **„ Illegitimate.**

CORNWALL - - Average number of deaths of inmates, eight annually, seamen brought in the last stage of disease from their ships.

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36. Are any plans adopted for taking charge of the savings of the workpeople?

BELFAST - - Yes.

CORNWALL - The superintendent receives into his charge the monies of seamen, as accounted for in his journal (as per sheet furnished). Each depositor has a voucher (as by accompanying form); each sum, when paid back, is tallied on the voucher and initialed by the depositor. Occasionally the monies are sent to inmates' mothers, sisters, or other relatives, which step is promoted by the superintendent.

THE ROYAL CORNWALL SAILORS' HOME.

Falmouth, 186 .

For safe keeping.

£ s. d.

Received of

Repayments:—

THE ROYAL CORNWALL SAILORS' HOME.

Falmouth, 186 .

Deposited by , an inmate of this establishment, for safe keeping, the sum of pounds shillings pence.

Superintendent.

Repayments:—

DEVONPORT - - The manager takes charge of any monies either to place in Savings Bank, or remit to friends.

QUEENSTOWN - Does not apply.

SUNDERLAND - Monies are deposited with the superintendent, and withdrawn as needed.

37. How long have they been in operation?

BELFAST - - Ten years.

CORNWALL - - From commencement of the establishment.

38. What is the number of the contributors, and the average amount of their savings?

CORNWALL - - The average amount annually in superintendent's charge fairly beyond 1,000*l.*

39. Are there any instances of savings invested in life assurance, and to what extent?

BELFAST - - - One life policy.

CORNWALL - - Inmates are induced to subscribe to the Shipwrecked Mariners' Fund. Some officers insure in the marine societies, but to what extent is not known.

41. Have any of the workpeople joined any Trades' Union, or formed any such union among themselves?

BELFAST - - - Sailors.

CORNWALL - - No.

42. Have such unions had any, and what influence upon their hours, or modes of labour, or their rate of wages?

CORNWALL - - The rates of wages of seamen engaging by the month are on the average 3*l.* at this port. The crews of British ships generally consist of men of all nations, which tends to avert the efforts of "Union" men as to seamen's wages. It cannot be supposed that the stamina of crews is improved by a preponderating mixture of foreign sailors.

Names.	
	43. Have there been any strikes among the work-people?
CORNWALL - -	Frequently vessels put in here in consequence of the crews being dissatisfied. It is scarcely known of a native born crew of Cornish men shipped herefrom becoming disorderly.
	44. State—
	***a.* At what period.**
	***b.* Of what duration.**
	***c.* And the alleged causes.**
CORNWALL - -	*c.* The alleged causes of dissatisfaction, chiefly are—leaky ships, tyranny, drunkenness; on the other hand, particularly on outward bound voyages, the crews having had a month's advance at other ports raise objections, real or imaginary, if putting in here to get free of their agreements, while perhaps they have worked but one week, thereby taking advantage of the owners.
	45. By what means, and on what conditions, were they terminated?
CORNWALL - -	1. By the crews running from their ships. 2. By the master's allowing them to walk over the ships' sides. 3. By the interference of the police and the magistrates. 4. By discharging the crews to the ships' loss.
	47. Has the establishment given rise to any hostile combinations among the manufacturers or workpeople of the locality?
CORNWALL - -	The crimps and their runners are hostile, and ever were so; so are other low vagabonds who prey on sailors about the landing-places; to meet which, the Home at first kept a boat and two men to board every ship coming into port. The superintendent now pays 1*s.* per head to boatmen for each seaman who may remain an inmate 48 hours, brought by their means.
	51. What is its gross annual income, and whence derived?
BELFAST - -	About 400*l.*
CORNWALL - -	The tabular form supplied will exemplify.
DEVONPORT - -	For 1866, 554*l.* 18*s.* 2*d.* Board and lodging money, annual subscriptions, and a grant from the Admiralty.
DOVER - - -	The gross annual income amounts to 500*l.*, derived from donations and subscriptions, and an average of 10*l.* per annum for food from the Shipwrecked Mariner's Society. Sailors who board pay for their food, but not to the amount expended.
GLASGOW - -	The answer to this question divides into two branches. 1. The income derived by the committee as proprietors, which consists of occasional subscriptions from the public, and rents received from portions of the building let as shops and offices. The former is very uncertain and of small amount; the latter averages about 250*l.* per annum. 2. The income derived by the superintendent, who receives the board of the inmates, and provides them with lodging and food. The profit yields him but a small remuneration for his labour.
LIVERPOOL -	The income differs year by year. Derived from the payments of seamen for board and lodging, and from letting a few offices on the ground floor to the Board of Trade for shipping &c. purposes.

Names.	
London	The income fluctuates; but for the year ending 30th April, 1866, it was 10,453*l.* 15*s.* 8*d.*, and derived from money paid by the boarders, annual subscriptions, donations, legacies, &c., as per balance sheet.
Portsmouth	About 600*l.*, viz., dividends of 3 per cent. consols, 100*l.*; rents of houses, 60*l.*; annual subscriptions, 240*l.*; Admiralty annual grant, 200*l.* There are also frequent donations and occasional legacies.
Queenstown	Average 100*l.* from subscriptions, and a small sum from seamen using the home.
Sunderland	Average about 700*l.*, derived from board money and subscriptions.
Swansea	About, on an average, say 1,500*l.* a year derived from seamen's board and lodging; 50*l.* from rent of shipping offices.

52. What are the annual expenses of management? *a.* And of collection, where subscriptions are paid?

Belfast	About 400*l.*
Cornwall	The secretary and superintendent 40*l.* per annum, for his entire services of supervision, correspondence (almost endless), and the collection of donations and subscriptions.
Devonport	130*l.* *a.* 1*l.* 16*s.*
Dover	Under 100*l.* *a.* It is the duty of the superintendent to collect the subscriptions without any per-centage.
Glasgow	None but factorage expenses, which have been taken into account in stating the amount of rents.
Liverpool	About 1,400*l.* for salaries and wages; for total cost see 58. Five per cent. on amount collected, say 9*l.* 10*s.*
London	The annual expenses vary. *a.* Between the 1st of May, 1865, and 30th April 1866, it was 9,801*l.* 16*s.* 3*d.*, which includes collector's poundage, 8*l.* 15*s.* 6*d.*
Portsmouth	About 700*l.*; viz., advertising, 35*l.*; boarding ships, 15*l.*; coals, &c., 35*l.*; gas, 57*l.*; furniture and repairs, 60*l.*; insurance, 9*l.*; rates and taxes, 57*l.*; washing, 35*l.*; salaries, 400*l.*
Queenstown	Average 100*l.* yearly expense. *a.* Average of donations and subscriptions 80*l.* yearly.
Sunderland	Provisions, rates, and taxes, fuel, gas, water, and furnishing, 750*l.*
Swansea	About 200*l.* a year.

53. What is the number of paid officers?

Belfast	One.
Cornwall	Two, the secretary and superintendent, and the purveyor.
Devonport	Two.
Dover	There were two last year, the superintendent and librarian. The latter is discontinued.
Glasgow	None.
Liverpool	Six and 14 servants.
London	Salaried officers, 10 in number, waged ditto, 25 in number.
Portsmouth	Ten.
Queenstown	One only.
Sunderland	Superintendent, and assistant.
Swansea	Nine, viz.: 1 superintendent; 1 cashier and book-keeper; 2 stewards; 1 porter; 2 cooks; 2 kitchen-maids.

Names.	**54. And their salaries?**
CORNWALL - -	The secretary and superintendent (*see* 52), the purveyor, refer to abstract of agreement furnished.
DEVONPORT - -	75*l.* for both. 52*l.* for servants.
DOVER - - -	Superintendent 40*l.*, with lodging, coal, and candles, and one guinea for each person saved from drowning. The librarian had 16*l.* annually.
LIVERPOOL - -	Manager's salary 300*l.* and house, with gas, coal &c. Other officers average 100*l.* per annum and part food. Servants 12*s.* and 14*s.* per week, and food and lodging.
LONDON - -	Salaries 1,026*l.* 3*s.* 4*d.*, wages 980*l.* 9*s.* 11*d.*
PORTSMOUTH - -	Superintendent and secretary - 150*l.* Steward - - - - 60*l.* Cook and seven men servants - 198*l.*
QUEENSTOWN -	The home steward, at 17*l.* 10*s.* a year.
SUNDERLAND -	Together 150*l.*
SWANSEA - -	Collectively about 200*l.* a year.

	55. The conditions on which the inmates are commonly received, and the average duration of their stay in the institution?
CORNWALL - -	All as a rule are received who are not deserters from ships, or known bad characters, or pronounced by the doctor to be infected with contagious disease. Their average stay. *See* question 8.
DEVONPORT - -	On payment of 2*s.* per diem for board and lodging. From one day to a month.
DOVER - - -	Entirely dependent upon circumstances. Great latitude is allowed to the hon. secretary, according to the exigencies of the case of wrecked men.
GLASGOW - -	No conditions. Average stay seven days.
LIVERPOOL - -	If the sailor offering himself as a boarder is from a coasting voyage a week's board in advance is required, returnable if he leaves before the week is expired, the charge per day being 2*s.* 2*d.* If from a foreign voyage, and to be paid off in the shipping offices here, then it is only necessary that he bring his clothes, &c.; and if he requires money we advance him altogether until paid off 20*s.*, or thereabouts. When apprentices offer themselves they must bring with them a written authority offering to pay their charges signed by the master of the ship. Average duration of stay 14 days.
LONDON -	Officers and seamen (British and Foreign), are received on application provided they can pay their way.
PORTSMOUTH - -	Men on payment of 13*s.* 0*d.* per week or 2*s.* 0*d.* per diem. Boys ,, 10*s.* 6*d.* ,, 1*s.* 6*d.* ,, Casual visitors can have a bed, or breakfast, or dinner, or tea, or supper, according to scale No. 3 of regulations. The length of stay is wholly uncertain, ranging from long leave of six or eight weeks to a few hours or days.
QUEENSTOWN -	Seamen discharged from their ships, or shipwrecked men. Also seamen waiting to join other ships. They remain times varying from one to 30 days.
SUNDERLAND -	14*s.* per week for board and lodging, average stay about 10 days.
SWANSEA - -	Simply that they are seamen, of whatever nation or religious creed; they stay from one day to a month (usually).

Names.	**56. The weekly cost of the inmates per head. If entirely, or in what proportion, it is defrayed from the funds of the institution, or in what other way?**
Belfast	By the home.
Cornwall	The weekly cost in 1866 was 1*l.* 2*s.* 7½*d.*, of which 7*s.* was defrayed from the donation and subscription fund.
Devonport	Two shillings a day does not cover the expense of maintenance, but it is made up by the annual subscriptions and Admiralty grant.
Dover	14*s.* weekly each man. In case of wrecked or distressed men this is paid from the funds of the institution, with the exception of particular cases of wrecks, when 2*s.* per head is paid for one day only by the Shipwrecked Mariner's Society.
Glasgow	As already explained. The board paid is as follows:—Officers, 18*s.* per week; men, 14*s.* per week; and apprentices, 12*s.* 3*d.* per week; and, as already mentioned, the profit is small.
Liverpool	Cost for food and lodging to the institution per head for week about 10*s.* Repaid from the board, &c. money.
London	Weekly cost per head 15*s.*, defrayed by the boarders, and all deficiencies met by surplus funds, derived from subscriptions, donations, legacies, &c., *vide* Balance Sheet and Analysis to Report for 1866.
Portsmouth	The charge of 13*s.* per week to the man barely pays for the board and lodging, and not even that, unless a considerable number frequent the Home. All other expenses are defrayed from the income and donations.
Queenstown	14*s.* per week, which pays for their food. The expense of beds and lodging are borne by the funds of the institution.
Sunderland	12*s.* per week.
Swansea	About 14*s.* per head per week; defrayed from the board money so far as it will go, the deficiency is expected to be made up by contributions of the committee and the public.

	57. Is any, and what, money allowance made to the inmates, and any, and what gratuity given to them on leaving the institution?
Belfast	No.
Cornwall	Sick and destitute men have from 3*s.* to 5*s.* given them in money and food, when leaving the Home for a distance; and passages by steam, through the influence of the chairman of the directors, are gratuitously allowed by the London and Irish steam companies; the Home receiving from time to time sick and hurt from their crews.
Devonport	None.
Dover	Distressed seamen, before they are sent on by rail, in addition to the fare paid for them, have from one to eight shillings given to them, according to their respective circumstances.
Glasgow	None.
Liverpool	No.
Portsmouth	None. Seamen residing in the home on coming Home from ships on foreign stations, and waiting at Portsmouth for their pay, are given an advance in money, occasionally to the amount of 1*l.*, which is considered a great boon by them.
Queenstown	None.
Sunderland	None.
Swansea	None.

Names.

58. State what has been the total yearly cost during the last five years.

CORNWALL - - In 1862, 721*l.* 11*s.* 3*d.*; 1863, 438*l.* 4*s.* 2*d.*; 1864, 561*l.* 17*s.* 10*d.*; 1865, 647*l.* 19*s.* 2*d.*; 1866, 594*l.* 1*s.* 7*d.* These sums do not show "the expenditure" in each year, from the circumstance that in some of them there were extraordinary payments, such as in 1865 and 1866, for purchasing the new premises, repairing the old on quittance, and in building the new hospital; but they express what appears to be required, the "cost" of working the establishment.

DEVONPORT - - It varies from 300*l.* to 350*l.*

DUBLIN - -

	£	*s.*	*d.*
In 1861 - - - - -	392	5	0
„ 1862 - - - - -	478	6	5
„ 1863 - - - - -	424	8	2
„ 1864 - - - - -	425	15	8
„ 1865 - - - - -	466	3	4
Total - -	2,186	18	7

GLASGOW - - The income which the committee receive, does not meet the expenditure in interest on borrowed money and taxes by from 120*l.* to 150*l.* per annum. The present debt on the establishment is about 6,200*l.*

LIVERPOOL - -

		£	*s.*	*d.*
Reopened after the fire in	1862, 9th May	3,233	2	0
„ „	1863, 12th May	6,340	13	9
„ „	1864, 12th May	7,525	3	0
„ „	1865, 12th May	6,712	11	0
„ „	1866,	7,349	4	9

LONDON - - 1862, 8,946*l.* 8*s.* 10*d.*; 1863, 8,559*l.* 13*s.* 7*d.*; 1864, 7,820*l.* 6*s.* 7*d.*; 1865, 7,997*l.* 16*s.* 7*d.*; 1866, 9,801*l.* 16*s.* 3*d.*

PORTSMOUTH - - 1862, 1,177*l.*; 1863, 1,585*l.*; 1864, 1,378*l.*; 1865, 1,773*l.*; 1866, 1,886*l.*

QUEENSTOWN - 100*l.* average.

59. Is there any provision made to provide for, or encourage—

***a.* Sickness.**
***b.* Education.**
***c.* Religious teaching.**
***d.* Recreation.**
***e.* Temperance.**

BELFAST - - *a.* Honorary medical advice. *c.* Visiting clergy. *d.* Small library. *e.* Yes.

CORNWALL - - *a.* 1862, 60*l.* 10*s.*; 1863, 61*l.* 8*s.* 8*d.*; 1864, 2*l.* 6*s.* 8*d.*; 1865, 54*l.* 3*s.*; 1866, 37*l.* 18*s.* (*See* medical officer's agreement.) The doctor is paid 6*s.*, or what amount for a fracture it may be, if the inmate has the means of payment. *b.* A well furnished library which the inmates have at command, containing books in almost every known language, and comprising nautical, historical, geographical, arithmetical (elementary) books; likewise, religious (approved) works, and select light literature.

The visiting clergyman, when in attendance on the inmates, affords instruction in writing and in arithmetic, which enables those confined in bed to pass advantageously many an otherwise dreary hour, and causes their ailments to be partially relieved by the mental exercise. *c.* The home is open to all

Names.	
CORNWALL—*cont.*	ministers of religion to attend to the members of their own flock. The bishop of the diocese has licensed a clergyman to attend. The Roman Catholic clergyman is very constant. The seaman's missionary visits daily. Several ladies and gentlemen also attend the bedsides of the sick, and read portions of the Holy Scriptures in various languages. *d.* Backgammon, draughts and chess boards; the library as referred to. Seamen do not care for exertion in physical strength on shore as a rule. *e.* By the allowance of a half-pint of beer or porter to each with his dinner, the directors had in view to keep the inmates from the public houses, as a promotion of temperance, and this quantity of beer, as a rule (small as it is) is not requested to be exceeded.
DUBLIN - -	*a.* In case of sickness the sailor is sent to the nearest hospital. *b.* Navigation taught by a master who is paid by the young men under his instruction. *c.* None. *d.* Encouraged. *e.* Promoted in every way possible by the committee and secretary.
GLASGOW - -	*a.* Few cases of sickness have occurred, but when such do occur they are sent to the Royal Infirmary. *b.* No school connected with the home, but immediately adjoining there is a nautical school, which seamen have the opportunity of attending if so inclined. *c.* Religious service morning and evening in the home, and a seamen's chapel in an adjoining street about 120 yards distant. *d.* Library of upwards of 150 volumes, newspapers, and religious and other periodicals. *e.* No drink except water allowed in the home.
LIVERPOOL - -	*a.* A medical man is fixed upon by the committee, from whom he gets a small fee, and he gets a small fee from each patient attended. No allowance made them. In case of death or burial the Institution pays the expenses if the deceased has left no funds; the health of the inmates has been wonderfully good during the past sickly year and we have had no cholera, and no deaths. *b.* A nautical school under the direction of the Arts and Science Department of the Board of Trade, and a local committee. Also a library and reading room. *c.* A clergyman of the Established Church conducts divine service twice upon Sundays, and attends frequently to converse with the men. Daily morning and evening prayers by the house steward or the manager. *d.* Concerts and readings, &c., &c., during the winter season of an evening as frequently as practicable. A skittle alley always open. *e.* No society formed; introduce the subject very often.
LONDON - -	*a.* A surgeon (paid by the Institution), attends daily to give advice and medicine, and is expected to attend on any special occasion if required. *b.* A navigation school (now solely supported by the students), is established on the premises; a book repository, and a spacious reading room is provided, with the most modern maps and globes. *c.* A church built for seamen adjoins the institution; a chaplain and one scripture reader always on the spot, while two city missionaries and another scripture reader give their partial services. *d.* A good library a skittle alley, and a room specially set apart for chess, draughts, bagatelle, is provided, and a course of useful and entertaining lectures given during the winter months. *e.* The boarders are surrounded with every possible influence for good which can conduce to this end.
PORTSMOUTH - -	*a.* Gratuitous attendance is given by medical men in common cases. The Admiralty, on application, always grant admittance to the Royal Hospital at Haslar, in serious cases. *b.* A good library, a large globe, &c. are provided for the free use of all inmates. *c.* A room is appropriated for the use of

Names.	
PORTSMOUTH—*cont.*	those who wish to retire for quiet study of the Bible, and a Bible and Prayer Book are in most of the dormitories and cabins. *d.* A good skittle alley, bagatelle board, chess, and drafts, &c. &c. for free use. *e.* One pint of good beer is served to each person at dinner and supper time; but no spirits are permitted within the premises.
QUEENSTOWN	*a.* Medical attendance regular and free by the hon. physician. *b.* No answer. *c.* Clergyman regularly attend the home. *d.* Library and newspapers. *e.* No spirits allowed in the home.
SUNDERLAND	*c.* Visitation of missionaries, distribution of books and tracts, conversation and advice. *d.* Reading room and large back ground for bodily exercise. *e.* Yes, by meetings and lectures which have been eminently successful in reforming seamen and other working people.
SWANSEA	*a.* A medical man is engaged to attend in cases of sickness. *b.* A library of books and periodicals is provided for the boarders. *c.* They can go where they like. There is a sailors' chapel and also a sailors' church provided for their use. They are not attached to the home. *d.* A playground provided with a good skittle alley, quoits, &c. *e.* Temperance is encouraged. The master of the home is a temperance man, having signed the pledge.

60. What has been the average sum spent, under each of these heads, during each of the last five years?

CORNWALL	For "sickness" hurts, (including broken limbs) 36*l.* 11*s.* 9*d.* The clergy and ministers attend voluntarily, and without fee or reward, to instruct and to afford religious consolation, and so likewise do lay gentlemen and ladies. They also often bring fruit or other luxuries for the sick. Books are presented. The institution has an excellent library thus accumulated.
DUBLIN	None.
GLASGOW	Not considerable, books having been mostly given to the institution.
LIVERPOOL	29. Say about 20*l.* per annum. 32. Nil. Students pay costs, say 3*s.* 6*d.* each, per week. 33. About 130*l.* per annum. 34. About 30*l.* per annum.
LONDON	Sickness 40*l.* *a.* Religious teaching 200*l.* *b.* Education 80*l.* *c.* Recreation 130*l.*
QUEENSTOWN	All freely given and supplied.

61. By whom, and under what control, are the funds managed?

BELFAST	Committee.
CORNWALL	By the directory. By having submitted to them, at their meetings, requisitions; possibly for these, contracts may be issued; the bills on being turned in are examined and attested by the superintendent, and if approved by the board are signed by two members, after which the superintendent pays them, or draws a check on the treasurer; which check must be crossed by two directors before being cashed by the treasurer.
DEVONPORT	Managing Committee.
DUBLIN	The vouchers audited monthly by members of the committee, the annual cash account by others.
GLASGOW	By the committee aforesaid.
LIVERPOOL	The manager and honorary treasurer.

Names.	
London	By the Board of Directors, who give their services gratuitously.
Portsmouth	By the Superintendent and Directors.
Queenstown	Committee.
Swansea	The president, vice-president, and committee.

62. Have you any other information to offer on this subject, or in regard specially to your establishment.

Cornwall	From the situation of the port of Falmouth, its noble harbour is open to receive ships of ALL flags, and not a few enter the port in consequence of some matter in relation to their crews. Often vessels have sickness on board through hard weather at sea, bad water for drinking, long passages, or want of anti-scorbutics. This Home therefrom is subject to serious drawbacks, to which other homes are not exposed; because, 1st, from its geographical position; 2ndly, from the large number of sick and hurt shipwrecked and destitute inmates it receives; 3rdly, it benefits those (foreigners as well as British) who do not themselves or their governments pay towards its expenses.
Devonport	This Institution has been particularly commended for its cleanliness, good order, and discipline, and several gentlemen who take an interest in sailors' homes have pronounced this a model for imitation.
Dublin	No more than stated in the last report, that for 1866 not being yet printed. Gross sum deposited in the secretary's hands for safety to this date, 12,080*l.* Of men being mariners, as boarders and shipwrecked, 8,295. 19th January 1867.
Glasgow	That it has been productive of a great deal of good in promoting temperance and economy among the seamen, taking charge of their money and other property, which might otherwise be spent unprofitably or even viciously.
Liverpool	We are comparatively empty at present, through the prevalence of easterly winds; at times we have 350, and even more in the establishment. Have separate dormitories for 345 only, but often extemporize beds in the lecture room. The institution cost 30,000*l.* The total number of boarders in 1865 was 7,197, and in 1866 the number was 7,808. A temporary deposit bank for seamen, which we conducted for many years with very great success, has now at the suggestion of our committee been taken up by the Board of Trade, who are preparing to establish similar banks at the other seaports. Apart from the temporary deposit bank, we receive from seamen about 25,000*l.* annually, which we place in their current accounts in the home.
London	The opinion of the late Lord Palmerston was, "That these "institutions tend to provide the sailor with a home, and it "is needless to point out how much his physical and moral "instincts are promoted by the reception he meets with therein. "They are indeed a part of those great social improvements "which have been made in recent times, and I may truly say, "that among them few are more deserving of public encouragement, or more conducive to the real interests of the "country."
Swansea	It is regarded as a great boon to the seamen of all nations, who would otherwise have no place to go to for board and lodging excepting to the low public houses, where, it is well known, they are robbed and plundered, and where they are

Names.

SWANSEA—*cont.*

tempted with every kind of vice and immorality to which they are proverbially ready to fall victims. It is believed that each year will prove the great benefit the home is to seamen and also to the cause of order in the town, and under the new management of a committee of thoroughly practical men (merchants and ship-owners) it is hoped that the good results will be even more marked in the future than they have been in the past. The committee have had very up-hill work so far, in battling with the influence of crimps and low lodging-house keepers, who do all they possibly can to get the men away from the home by enticing them with drink and other allurements, but these influences are being gradually overcome.

The total number of men (all seamen, of course), who have boarded at the home since its opening on the 19th May 1864 to the 31st December last, is 3,235.

The average number per day during the

First 6 months	was	15,	ending, say,	31st December 1864.
2nd 6	„	31¼	„	30th June 1865.
3rd 6	„	46	„	31st December 1865.
4th 6	„	41	„	30th June 1866.
5th 6	„	35	„	31st December 1866.

The sole cause of the falling off during 1866 is to be attributed to the fact of the death of our first superintendent in December 1865. The committee were rather unfortunate in the selection of one to succeed him, who, however, was discharged in November last, and under the present superintendent, Mr. Cole, we are getting on very satisfactorily, and hope to show good results this time 12 months.

Particular attention is requested to the printed resolutions just passed at the last committee meeting, of which a copy is sent herewith. Copy of resolution passed at a subsequent meeting on 21st January 1867 is also sent.

Total amount in cash and advance notes received by the cashier from seamen for safe keeping, &c., from the opening of the home to 31st December 1866, is 13,213*l.* 11*s.* 4*d.*

No case of cholera or any other epidemic has occurred at the home since it was opened.

The cost of building and furnishing the home, upwards of 4,000*l.*, has all been paid by voluntary contributions, but there exists a debt of about 700*l.* on the working expenses, which has accumulated in consequence of the charges to boarders and other income from the rent of the shipping offices and contributions not being sufficient to meet the expenditure.

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64. Names of the persons, with their officers, by whom the affairs of the society are managed.

BELFAST - - John Shelly, Esq., Chairman; Sir Ed. Coles, Treasurer; Chevalier Gustavus Hleyn, Hon. Sec.

CORK - - - No answer.

CORNWALL - - William Carne (Chairman), J. Baynard, Wm. Broad, A. L. Fox, J. Freeman, W. H. Bond, Esquires, and Major M. V. Bull, are the directors; R. M. Tweedy, Esq., treasurer; Alfred B. Duckham, Esq., secretary and superintendent.

DEVONPORT - - Governors and Managing Committee.

DOVER - - - Managed by an annually elected Court of Directors and Vice President. A paid resident Superintendent acts under the orders of the Hon. Secretary.

DUBLIN - - Per Report herewith sent.

LONDON - - Governed by a patron, president, vice-presidents, treasurer, chairman, a managing body of directors, and two secretaries (*ex-officio*).

Names.	
Portsmouth - -	Board of Directors. Rear Admiral R.F. Gambier, chairman.
Queenstown -	Sampson T. W. French, Esq. J.P. ; Admiral Kerr; Commander Brereton, R.N.; Captain Corbett, R.N.; James W. Scott, Esq.; W. D. Seymour, Esq., J.P.; Walter Cummins, Esq.; Lieutenant MacDongall, R.N.; Captain Stuart, R.N.; F. Michelli, Esq.; W. Tooker, Esq., R.N.R.
Swansea - -	A superintendent, under the direction of a president, vice-president, and committee.

68. What special means are adopted for securing the object of its formation ?

Belfast - -	Giving lodgings and board.
Cornwall - -	Good seamen (not bereft of their senses) need no special means to draw them to this establishment. The sick and destitute are sure to seek the Samaritan-like care of this home. The home at first had a boat to induce seamen while on board their ships to come to it ; its cost of 22*l.* per annum was substituted by a payment of 3*l.* 3*s.* to the coxswain of a ship agent's boat for dispensing cards. But this payment is now saved from the directors' conviction that those who have been inmates tell others ; and in fact because sailors' homes have attained a standing. The directors, however, encourage watermen to bring inmates (see 47) in continuance by the payment of a small gratuity.
Devonport - -	We send a card, or rather a number of cards, on board each ship on her arrival at this port to be distributed among the crew.
Dover - - -	The Superintendent boards all vessels that come to Dover to be paid off. All wrecked men are brought direct to the Home as soon as landed, either by night or day. Many are sent from neighbouring ports where there is no refuge established.
Dublin - -	Only the voluntary contributions of the public, to which the secretary was under the necessity of giving nearly half his salary for several years past.
London - -	Good organization, a perfect system of accounts, and the employment of those various agencies conducive to mature habits of frugality, relf-respect, and the love of God. *Vide* Fundamental Rules and Regulations, &c.
Portsmouth -	Boats visit all ships arriving at Spithead or in Portsmouth Harbour, and all seamen invalided on coming home from foreign stations ; and the day-hall, library, and skittle alley are open to the seamen, marines and boys of the Navy or mercantile marine, free of any expense, even if they are not living in the Home.
Queenstown -	Ships are visited on arrival in port. The seamen sought out and shown the advantages of the Home, over the crimps and lodging-house keeper of a low class, who usually prey upon seamen.

69. Give a short sketch, with statistics of its progress, development, and present prosperity.

[Copies of the earliest and latest reports (including the balance sheets) should be filed with this form.]

Belfast - -	Enclosed last year's report. To prevent sailors going into bad lodgings, being robbed. The home is very prosperous. Building costs about 4,000*l.* and fittings up. Now all free, no debt. Deposited by sailors about 900*l.*, and sent to friends.

Names.	
CORNWALL -	This home formed Sept. 1, 1851 in the first five months realized in annual subscriptions 61*l.* 5*s.* 6*d.*, donations 256*l.* 19*s.* 1*d.* On May 17, 1853, the amount obtained was 494*l.* 10*s.* 9*d.*. which included 81*l.* 13*s.* 9*d.* by collecting cards. During 1853 the sum of 3*l.* 3*s.* was deposited in the savings bank to form a nucleus around which to gather a fund for a hospital in connexion ; this small commencement bore fruit so rapidly that in ten years notwithstanding many a struggle, the home became in a position to purchase commodious premises, and in its rear to build a splendid hospital. The future *fixed* outlay now chiefly only being fire and life insurances in addition to rates to the local authorities. In 1854 a ladies' bazaar realized 206*l.* net. The annual donations and subscriptions have each averaged 150*l.*, equal to 300*l.* per annum.
DEVONPORT - -	Since its establishment in 1852 125,804 seamen have availed themselves of its advantages ; and it must be borne in mind that Devonport is not the head-quarters of the Navy, and therefore Portsmouth, which is, must always have a much larger number of seamen in its port, and also at the Home ; but we find our numbers are gradually increasing every year.
DOVER - -	The first year five wrecked crews were received. The Reading Room was well attended. In a short time, and as the Institution became known, the house hired for the purpose was found too small. The Harbour Commissioners consented to grant a site for a building. It was then resolved to build a suitable house with every requisite accommodation. In a few years the adjoining premises were added ; the whole being freehold, and the Harbour Commissioners the Trustees. There is also a freehold school built by the Honorary Secretary, and presented to the Home. The present prosperity of the Home is very encouraging to the managers. *See* printed documents.
DUBLIN - -	The institution was only by a very great effort kept in operation, owing to the number of beer shops and crimps on the Quays, and the number of charities in Dublin. The natives of all nations are received. Foreigners are paid by their consuls. There is at present a shipwrecked crew—French—in it. The funds being inadequate to meet current expenses, the Shipwrecked Mariners' Society in London allow for the board and lodging of the subjects of the United Kingdom.
LONDON - -	The foundation stone of this parent "home" was laid in May 1830. In 1835 it was opened for the reception of 100 boarders, and ultimately accommodation was provided for 328 boarders. In 1863, the demand for additional accommodation reached such a crisis that another wing was added, and the same opened in 1865, making the total number of sleeping berths 502. Commodious mercantile marine offices also formed a part of the enlargement. The total number of seamen who have boarded in the home since 1835 is 169,905, of whom 49,286 are old or returned boarders. The total amount of sailors' money which has passed through the cashier's hands during the same period is 1,358,704*l.*, 496,301*l.* of which has been remitted by the sailors to their relatives, and 50,062*l.* invested in the savings' bank. In the year 1830 an effort was made to emancipate the swearing, reckless, and drunken sailor from the chains in which he had been allowed to drag on through a long career of vice and misery, and by providing him with the temporary accommodation of a well-ordered home, to draw him out of those quicksands, the common lodging houses of the day, in which he was sinking into lower and lower depths of profligacy. Though in one sense

Names.

LONDON—*cont.*

simply a boarding house, sailors' homes must nevertheless be regarded as forming a sure basis for whatever valuable and extensive service it may be hoped to render to seamen.

Sailors' homes are chiefly supported by those (sailors) for whose sole benefit they were founded. Wherever established, they have improved the class of boarding houses, they have considerably tended to diminish a system of extortion and robbery carried on by dishonest slop dealers, and other professions; they have turned money into channels of usefulness, nay more, benevolence, which would otherwise have been squandered in vice or folly; and above all, they have won the confidence of a class of men whose prejudices and vices were written with a pen of iron, and they are producing on that class a most important and lasting effect, socially, politically, and religiously.

The day on which the foundation stone of this home was laid gave birth to a new era in the annals of the sailor. The work went on in the midst of many interruptions from those interested in perpetuating the vice and misery of sailors, until in May 1835 it was opened for 100 boarders. From these humble beginnings it has grown into its present proportions, and now exhibits a fruitfulness and capability of adaptation far beyond anything its warmest advocates ever anticipated. The progress of its moral element has kept pace with its material growth, and the sailors who have learnt to profit by its advantages are now far advanced in the scale of social worth, and brought many stages nearer the ordinary rules of propriety. This institution is also the parent stem or pioneer from whence no less than 35 Homes have taken root in Great Britain and her dependencies, and nine in foreign countries.

To provide a temporary Home, combining security, freedom of action, and social enjoyment for the sailor on his return from a perilous voyage, and to promote his moral elevation, improvement and religious instruction, is the single aim of the directors, whose services are given gratuitously. As a proof that these objects have in large measure been accomplished, they beg to refer to the accompanying plans, reports, rules, circulars, cards, &c., simply drawing attention to the facts that 169,905 seamen have been admitted as boarders since the opening of the institution in 1835, and that no less than half a million sterling, out of a total of 1,358,704*l.* received from seamen, has been directed by their express consent, into legitimate channels during the same period; while 175,000 seamen have attended divine service in the seamen's church adjoining since the year 1849. These facts, together with the corresponding progress in the social and moral element, considering the proverbially careless and improvident habits of the sailor, bears most striking testimony to the remarkable success which has, under Providence, hitherto attended the operations of this particular institution, and invests it with an influence which must make it permanent and self-supporting.

PORTSMOUTH

The two first annual reports, herewith transmitted, will give the best answer to the first part of this question, and the two last reports, also transmitted, will answer respecting its present prosperity. It will be sufficient to state *here*, that after one year's trial, it was found necessary to provide quadruple the accommodation in bed cabins, and that during the Russian war the numbers were so great that every bed was occupied, and sometimes *hundreds* sleeping on the floor besides; that, besides the good effect of temperate habits produced in the men who frequent this Home, its good results are felt throughout the

Names.	
	land in the amount of money saved from the grasp of the worst of both sexes, and sent to be spent *at home* by the men in the bosoms of their families.
QUEENSTOWN -	In 1854 the principal gentry and merchants of the town and neighbourhood, taking into consideration the large number of seamen visiting this port, as well as its rising commercial importance, resolved to establish a home for seamen. These efforts were warmly seconded, and a sufficient sum was raised to purchase a suitable building and fit it up with every comfort for seamen. Since the above date the progress and useful development of the Home has increased with every year. In the first year 152 seamen availed themselves of the Home. The sum of 623*l.* was lodged by these men with the steward for protection. A continual increase has gone on until during the past year, 880 seamen have been received, 81 shipwrecked men sheltered, and 36 distressed seamen lodged and fed free of all expense. Also the large sum of 1,430*l.* was banked by these men in the Home making a total of 14,604*l.* sterling received since the first formation of the Home; a large proportion of which, it is much to be feared, had the Home not been in existence, would never have reached those to whom it was legitimately due. The present state of the Home is most prosperous and useful.
SWANSEA - - -	See reports herewith, from 1861 to 1866 inclusive.

70. In what respect does the society fulfil the conditions on which a claim can be submitted on its behalf to the international jury, in accordance with the principles laid down at their first meeting.

BELFAST - - -	The immense good done to sailors, British and foreign, and the large bonus sent to their friends.
CORNWALL - -	1st. The institution originated from "the spirit of charity and beneficence." 2ndly. The home was the consequence of a "free and spontaneous initiative," which has been led to a magnificent result. 3rdly. The "praiseworthiness" of this institution. 4thly. The up-hill work this institution has successfully borne the brunt of truthfully illustrates that its prosperity has been energetically sustained and progressive. 5thly. The seamen benefited (of every clime) reckon beyond 10,800, whilst the institution is possessed of, and occupies a splendid property which cost 1,000*l.*, but is worth much more. The success attending the home is a constant source of wonder even to the directors themselves.
DEVONPORT - -	That it was formed for the express purpose of improving the moral condition of *all* seamen, without any reference or assistance from the Government of the day, and to induce them by example and otherwise to respect themselves.
DOVER - - -	The society has in every respect fulfilled the conditions on which it made its appeal to the public. No distressed sailor of any country has ever been sent away without efficient relief. The following table will show how completely the Home has answered its intended purposes as a refuge. United Kingdom wrecked ships, 129; French, 60; American, 4; Belgian, 4; Danish, 13; other countries, 25. These crews up to January 11, 1867, numbered upwards of 2,000 men, more than 500 were subjects of H. I. M. the Emperor of the French. The lives of 31 persons apparently drowned have been saved by the diligent use of the means recommended by the Royal Humane and Life Boat Societies.

Names.	
DUBLIN - -	By doing all in their power to serve a deserving class of men employed to convey commerce from clime to clime.
LONDON - -	Principle 1. "The spirit of charity and beneficence." „ 2. "Free and spontaneous initiative." „ 3. "Compatible with sustained and progressive prosperity. „ 5. "Durable and prosperous institutions, contributing to the propagation of good feeling and happiness."
PORTSMOUTH - -	A remarkable instance of the usefulness of this Institution occurred on the occasion of the visit of the French fleet to Spithead (in 1865 report), when about 650 of the seamen of that fleet and several officers were entertained there, and the happy sight was witnessed of the social happiness and harmony that existed beween the crews of the British and French fleets as they sat together in hundreds at dinner, enjoying themselves soberly and rationally. Another good effect may be legitimately claimed as springing from the establishment of this and other "Sailors' Homes," namely, that the seamen who have this year past met at the Home are arranging a plan for supporting their widows, children, and mothers, by the formation of an Annuitant Society, to be effected by monthly subscriptions from their pay, instead of leaving them, as is so continually the case, to become inmates of the Union Workhouse. The Directors cannot omit to mention that Her most Gracious Majesty the Queen and His Royal Highness the late Prince Consort were amongst the first and most earnest of the supporters of this Institution.
QUEENSTOWN -	1st. That it arose from a spirit of charity and beneficence. 2nd. Its establishment was from a free and spontaneous initiative. 3rd. Its prosperity has been sustained and progressive. 4th. It forms a striking example, whereby good feeling and happiness is promoted amongst seamen. Affording to sailors a comfortable home, who previously were subject to the imposition and extortion of a low set of lodging-house keepers.
SWANSEA - -	It is respectfully submitted that the society embraces all the principles laid down by the International jury, and which it is hoped may entitle it to a claim to consideration.

80. Are there any relief funds, asylums, or life assurances connected with the society? and is any provision secured in case of future need?

BELFAST - -	Deposits at interest, and life insurance.
CORNWALL - -	The whole system of this home is one of "relief" more particularly the hospital division.
DUBLIN - -	No.
LONDON - -	The Destitute Sailors' Asylum, established in 1827, under the auspices of the founders of the Sailors' Home, and sharing in the advantages of the latter's administration, supported solely by voluntary contributions and distinct funds, supplies shelter, food and clothing to distressed seamen of all nations. Since its opening it has relieved 43,904 destitute seamen.

Copies of the signatures of magistrates and other persons who certify that they are well informed of the management of the establishment against which their names stand, and that they believethe foregoing statements to be true.

Names.	
BELFAST - -	Daniel Taylor, Mayor; Henry Morney, M.D., and J.P. for County of Antrim.
CORK - - -	Not signed.
CORNWALL - -	Thomas Webber, Mayor; N. Fox, J.P.; F. C. Bullmore, J.P.
DEVONPORT - -	J. B. Comerville, Commander, R.N., and J.P. of Devonport; John Briggs, B.A., late Chaplain Royal Dockyard, Devonport.
DOVER - - -	W. R. Mummery, J.P., Mayor of Dover; Luke Smithett, J.P.; William Yate.
DUBLIN - -	A. S. Fuller, Curate of St. Mark's, Dublin; E. Kinahan, J.P. Borough of Dublin.
GLASGOW - -	Thomas Murray, Bailie; James Lumsden, Lord Provost.
LIVERPOOL - -	Henry A. Bright, Magistrate for the Borough of Liverpool; C. T. Bowring, ditto.
LONDON - -	Dan. Greatorex, Incumbent of St. Paul's, Whitechapel; Wm. Stutfield, a Magistrate acting in and for the County of Middlesex.
PORTSMOUTH -	Thos. S. Pasley, Admiral and Commander in-Chief; Lewis Maitland, J.P., Portsmouth; John Knapp, Incumbent of the Parish.
QUEENSTOWN -	W. A. C. Collis, D.D., Rector of Queenstown; W. D. Seymour, J.P. for the County of Cork; William E. Gumbleton, J.P. for County of Cork.
SUNDERLAND -	Wm. Nicholson, J.P.; Robert Elwin, J.P.
SWANSEA - -	Thomas Phillips, Mayor of Swansea; S. Padley, J.P. for the Borough of Swansea; John C. Richardson, Magistrate for the County of Glamorgan.

19.

IV.—SAILORS' HOMES.

APPENDIX GIVING AN ACCOUNT OF THE SUPPLEMENTARY INFORMATION SENT IN WITH EACH RETURN.

Names.	
Belfast	1. Copy of 11th annual report.
Cork	1. Annual report.
Cornwall	1. Annual reports since 1852. 2. Placard showing rules and object of institution. 3. Specimen of register used. 4. Specimen of Superintendent's Journal. 5. Balance Sheet for 1866. 6. Returns of Sicknesses and Nationality of Inmates, 1866. 7. Terms of Agreement with the Purveyor. 8. Terms of Agreement with the Medical Officer.
Devonport	1. Specimen tickets distributed to Sailors. 2. Annual Reports for 1854, 1864–5.
Dover	1. Annual report. 2. Report of the Directors and balance sheet. 3. Extract from the Dover News.
Dublin	1. Annual reports.
Glasgow	1. Report of first four annual meetings.
London	1. Volume of early reports of the Sailors' Home. 2. Reports of the Sailors' Home from 1851 to 1866. 3. Plans, Sections, and Elevations of Buildings.
Portsmouth	1. Annual reports.
Queenstown	1. Annual reports.
Sunderland	1. Copy of the report for 1865. 2. Copy of "The Ocean and Sailors' Home Magazine," Part I. 3. A letter concerning the manning of the ships. 4. Prospectus. 5. View of building. 6. Letter from Mr. Milne concerning the origin of the institution.
Swansea	1. Reports of the Swansea Auxiliary British and Foreign Sailors' Society. 2. Specimens of Seaman's Cash Account.

20.

STATISTICS OF THE SAILORS' HOMES IN THE UNITED KINGDOM.

The returns sent in by the Directors of several Sailors' Homes, as applicants for the New Order of Reward, will be found in the preceding pages.

As the Imperial Commission, however, expressed a special wish to receive full and precise information respecting this class of Institutions, a communication was addressed to the Superintendent of every Home in this country, asking for certain details respecting it, and for copies of the reports which had been published since it was opened. The particulars in the following tables have been obtained from these reports, and by correspondence with the secretaries, or superintendents, who have kindly furnished much interesting information relating to the Homes with which they are severally connected.

The Tables show that 29 Sailors' Homes have been established in seaport towns of the United Kingdom since the year 1835, when the Home in Well Street, London, the oldest and largest of these Institutions, was first opened. Many naval officers, and others interested in the well-being of the 300,000 British seamen who are employed in the Mercantile Marine and Royal Navy, have assisted in the work of establishing and carrying on these Homes; but, in the words of the last report (1865), of the Sailors' Home Society, "it were "not easy in speaking of the establishment of Sailors' Homes, both in this "country and abroad, to be silent as to the fact that it was to the exertions of "Admiral Hall, R.N." (so long and so well known as Captain Hall of the *Nemesis*), that the success that has been hitherto attained is mainly due."

The seaport towns in which Sailors' homes have been established are :—

In England, 16, viz.:—

1. London, Dock Street, E.
2. „ Poplar, E.
3. Bristol.
4. Devonport.
5. Dover.
6. Cornwall (Falmouth).
7. Gloucester.
8. Great Yarmouth.
9. Hull.
10. Liverpool.
11. North Shields.
12. Plymouth.
13. Portsmouth.
14. Ramsgate.
15. Southampton.
16. Sunderland.

In Wales, 3, viz.:—

17. Cardiff.
18. Milford.
19. Swansea.

In Scotland, 5, viz.:—

20. Aberdeen.
21. Glasgow.
22. Greenock.
23. Leith.
24. Stornoway.

In Ireland, 5, viz.:—

25. Belfast.
26. Cork.
27. Dublin.
28. Limerick.
29. Queenstown.

Homes have also been established,—

In the Colonies, 11, viz. :—

- Sydney.
- Melbourne.
- Calcutta.
- Bombay.
- Madras.
- Cape of Good Hope.
- Mauritius.
- Hong Kong.
- Shanghai.
- St. John's, Newfoundland.
- St. John's, New Brunswick.

In Foreign Ports, 9, viz. :—

- New York.
- Boston.
- San Fancisco.
- Marseilles.
- Havre.
- Amsterdam.
- Rotterdam.
- Hamburg.
- Callao.

No information has been received from *four* of the twenty-nine Homes in this country; but, it appears from the Tables which follow that,—

(1.) 25 of these Homes accommodate 2,531 boarders.
(2.) 23 Homes had 44,839 inmates in the course of the last year to which their returns relate, out of which,
(3.) 18 Homes received 8,317 foreigners.
(4.) Since they were opened 19 Homes have had 418,207 boarders, of which,
(5.) In 15 Homes, 65,328 have been foreigners.
(6.) 22 Homes in the past year had an income of 37,569*l.*, of which the inmates paid no less than 31,062*l.*; so that these Institutions, when once fairly set on foot, are nearly self-supporting.
(7.) From 13 Homes, the remittances to friends and relations of the inmates amounted, in one year, to 71,852*l.*; and,
(8.) In 17 Homes, the deposits of the inmates, for safety, also in one year, reached the sum of 162,158*l.*

TABLES.

Name.

1. LONDON -

I. The Sailors' Home at Well Street and Dock Street, London, opened in Well Street in 1835 for 100 boarders, afterwards accommodated 328, but now has accommodation, since the enlargement in Dock Street in 1865, for 50 officers and 452 seamen.

II. In the year ended 30th April 1866 the number of boarders was 11,380, of whom 2,120 were foreigners; their average stay, 9 days.
Since the opening of the institution there have been 169,905 boarders, of whom 26,225 were foreigners.
The weekly charge, which includes medical attendance, is 18*s.* 6*d.* for officers, raised on the 1st January 1866 from 17*s.* 6*d.*; 15*s.* for men, raised from 14*s.*, owing to the increased cost of provisions.
In the same year—

The number of rations issued -	88,487	
„ beds occupied -	88,487	
„ casual beds supplied about	2,190	
„ casual meals supplied „	1,500	
„ shipwrecked seamen relieved - - -	56	Relieved at the Destitute Sailors' Asylum, Well Street.
„ distressed seamen lodged	657	

III.

	£	*s.*	*d.*
The *gross income* for the year was - -	10,453	15	8
of which inmates paid - - - -	9,394	6	4
Subscriptions, &c. yielded (including a legacy.) - -	1,017	2	5
Investments yielded - - -	42	6	11
The gross expenditure was - - -	9,801	16	3
or 2*s.* 1¾*d.* per head per diem.			
The outlay on salaries (staff, 35 in number) - - - - - -	2,006	13	3

IV.

	In 1866.	Since the opening.
	£	£
The deposits by seamen - - - -	94,811	1,358,704
The sums remitted to friends of seamen -	36,691	496,301
Investments for seamen in savings banks -	3,662	50,062

V. There are in connection with the Home a navigation class and library, with lectures during the winter months; a Mercantile Marine office, in which 10,978 seamen were engaged, and 11,761 discharged, in 1865-6; a Royal Naval Reserve office;

Names.

LONDON—*cont.*

a church adjoining the Home specially for seamen, with sittings free; a post office and Board of Trade money order office. A surgeon attends daily.

VI. Captain W. H. Webb, R.N., is *secretary*.

I. The *Destitute Sailors' Asylum* in Well Street, London Docks, was opened in 1827 for "the supply of shelter, food, and clothing to the distressed seamen of all nations," who, before admission, must furnish proof that they belong to that calling, and that they have not been on shore from their last ships more than 12 months.

II. In the year ending 30th April 1866, the number of shipwrecked seamen relieved was 56, and of distressed seamen lodged was 657, or 713* in all, of whom 169 were foreigners.

Since 1827, there have been 43,904 inmates, of whom 13,397 were foreigners.

The inmates seldom stay more than nine days, and may not, as a rule, remain more than 14 days in winter or 11 days in summer.

	£	s.	d.
III. The gross income for the year - -	602	6	0
of which Subscriptions, &c. yielded -	218	16	0
Investments - - -	117	2	0

The expenditure was 516*l.* 9*s.* 11*d.*, including 287*l.* for salaries.

IV. This institution is under the control of the same governing body of directors as the Sailors' Home, but has a distinct treasurer and patron. It thus enjoys great advantages in the administration of its domestic and financial economy, and shares in the benefits dispensed by the services of the chaplain and his staff, and the medical officer of the Sailors' Home.

2. POPLAR -

I. The Sailors' Home at Poplar opened in 1841, for 120 boarders, now has accommodation for 150 seamen.

II. In 1866, the number of boarders was 2,023, of whom one-half were foreigners. Their average stay, 14 days.

The weekly charge is 15*s.* for men, boys, and apprentices.

In 1866,—

The number of rations issued - -	8,072
,, beds occupied - -	2,023
,, distressed seamen lodged -	30

	£	s.	d.
III. The gross income for 1865 was - -	3,054	0	11
of which inmates paid - - -	2,750	6	0

The expenditure was 2*s.* 3*d.* per head per diem.

The outlay on salaries, 351*l.* 0*s.* 0*d.*

IV.

——	In 1866.		
	£	s.	d.
The sums remitted to friends of seamen - -	17,214	12	3
Investments for seamen in savings bank -	1,721	5	0

V. There were in connection with the Home both a school and a navigation class; but the effects of a Minute of the Privy Council on the Master's salary caused them to be closed in December 1863.

There is a library; and a Mercantile Marine office, which managed in 1866 the engagements of 15,114 men and the discharges of 13,924 men; and Royal Naval Reserve office.

The inmates have sittings in a chapel close at hand that was built by Mr. George Green, father of the present Mr. Green.

There is also a money-order office in connection with the Mercantile Marine office, and a savings' bank under the Board of Trade for remittances and deposits.

There is a hospital.

* The aggregate amount of wages received by these 713 men when paid off from their ships was (by their own statement) 2,398*l.*, giving an average of 3*l.* 7*s.* per man.

Names.

POPLAR—*cont.*

VI. No reports are issued, as this is a private establishment, supported by Mr. Green of Blackwall.

The foregoing particulars have, however, been kindly furnished by Captain James Furnell, one of Mr. Green's old commanders, who for 10 years has had the direction of the institution.

3. BRISTOL -

I. The Sailors' Home at Bristol opened in 1853, has accommodation for 5 officers and 47 seamen.

II. In 1866 the number of boarders was 1,731, of whom about 150 were foreigners. Their average stay, 4 days.

Since the opening of the institution there have been 15,540 boarders, of whom 1,235 were foreigners.

The weekly charge is 14*s.* for officers and men ; 11*s.* for boys and apprentices.

In 1866 the number of shipwrecked seamen relieved -	230
„ „ distressed seamen lodged -	72

	£	*s.*	*d.*
III. The *gross income* for 1866 was - - - -	1,101	9	8
Of which inmates paid - - - -	748	18	5
Subscriptions, &c. yielded - - -	184	7	5
Voluntary rate from shipping - -	115	14	6
Sub-rents and investments yielded - -	52	9	4
The gross expenditure was - - - or 3*s.* per head per diem.	1,055	15	1
The outlay on salaries - - - -	231	16	3

IV.

	In 1866.	Since the opening.
	£	£ *s.* *d.*
The deposits by seamen - - - -	8,348	45,280 13 0

V. There are in connection with the Home a library and reading room ; and the boarders have gratuitous medical advice.

VI. Captain T. C. Hutchins is *superintendent*.

4. DEVONPORT

I. The Royal Sailors' Home at Devonport opened in 1852, has accommodation for 1 officer and 75 seamen.

II. In 1866 the number of boarders was 272, of whom 24 were foreigners. Their average stay, 7 days.

Since the opening of the institution there have been 2,725* boarders, of whom 160 were foreigners.

The weekly charge is 14*s.* for men, boys, and apprentices.

In 1866,—

The number of casual beds supplied -	2,818
„ casual meals supplied -	1,853
„ distressed seamen lodged -	24

	£	*s.*	*d.*
III. The gross income for 1866 was - - -	427	6	6
of which inmates paid - - -	174	13	1
Donations and subscriptions, &c. yielded -	79	18	10
Investments yielded - - -	22	14	7
Admiralty grant - - -	150	0	0
The gross expenditure was - - -	421	15	3
The outlay on salaries and wages - -	127	14	0

IV.

	In 1866.	Since the opening.
	£ *s.* *d.*	£. *s.* *d.*
The deposits by seamen - - - -	658 7 6	13,251 10 5
The sums remitted to friends of seamen -	50 0 0	3,742 4 6
Investments for seamen in savings' bank -	—	523 11 6

* Since the institution was established, 125,804 seamen and marines have availed themselves of the comforts of the Home.

Names.

DEVONPORT—*cont.*

V. There are in connection with the Home a library, a Royal Naval Reserve office, and a post and money office.

VI. Staff-commander F. W. Bateman, R.N., is *honorary secretary and treasurer*. Mr. R. Rowlands is *manager and steward*.

5. DOVER -

I. The Sailors' Home at Dover opened in 1853, for 10 boarders, now has accommodation for 8 officers and 42 seamen.

II. In 1866 the number of boarders was 101, of whom 9 were foreigners. Their average stay, 6 days. Not many vessels are paid off here.

The weekly charge is 18*s.* for officers; 14*s.* for men; 10*s.* 6*d.* for boys and apprentices.

In 1866—

The number of	casual beds supplied - -	75
„	casual meals supplied - -	180
„	shipwrecked seamen relieved -	201
„	distressed seamen lodged -	48

Wrecked and distressed seamen are numerous, as the situation of the port facilitates their landing here. The Shipwrecked Mariners' Society pays 2*s.* each for some of the wrecked men towards the food with which they are supplied.

	£	*s.*	*d.*
III. The gross income for 1866 was - - -	1,030	17	8
Of which inmates paid - - - -	68	10	0
Subscriptions, &c. yielded - - -	414	17	0
Investments yielded - - -	445	6	3
The gross expenditure was - - -	948	3	11
The outlay on salaries and gratuities - - -	60	0	0

IV.

——	In 1866.			Since the opening.		
	£	*s.*	*d.*	£	*s.*	*d.*
The deposits by seamen - -	445	6	3	1,842	12	6
The sums remitted to friends of seamen	150	0	0	430	0	0

V. There is a library in connection with the Home, and lectures are occasionally given.

There is also a church, and a post office for the reception of all sailors' letters.

The honorary surgeons attend gratis; and there is a sailors' hospital in Dover, but not connected with the Home.

VI. The Rev. W. Yate, Minister of St. John's, is *treasurer and hon. secretary*.

6. CORNWALL (FALMOUTH)

I. The Royal Cornwall Sailors' Home and Infirmary for Seamen of All Nations, at Falmouth, opened in 1852 for 20 boarders, now has accommodation for 54 officers and seamen. Commodious premises have been purchased, and a house built in the rear for a hospital.

II. In 1866 the number of boarders was 792, of whom 267 were foreigners. The average stay of the sick, 13 days.

Since the opening of the Institution there have been 10,822 boarders, of whom one-third were foreigners.

The weekly charge is 14*s.* for officers and men; if sick, 16*s.* (including nurses' attendance); 10*s.* 6*d.* for boys and apprentices.

In 1866—

The number of	rations issued - -	11,257
„	beds occupied - - -	3,370
„	casual beds supplied - -	175
„	casual meals supplied - -	163
„	shipwrecked seamen received -	125

Names.

CORNWALL (FALMOUTH) —*cont.*

III. The gross income for 1866 was - - - - £ 749 1 4
Of which inmates paid - - - - - £ 453 11 4
(including medical fees.)
Donations and subscriptions, &c. yielded - - £ 295 10 0
The gross expenditure was - - - - £ 830 2 10
(nearly 200*l.* of which went towards cost of building the hospital, and for doctors' fees 37*l.* 18*s.*)
For the sick occupant the average cost to the establishment in 1866 per diem was 3*s.* 2¾*d.*; of convalescent the cost was 2*s.* 2*d.*
The outlay as salary to secretary and superintendent was 40*l.*
The purveyor receives 14*s.* weekly, and sundry allowances.

IV.

——	In 1866.	Since the opening.
	£ *s.* *d.*	£
The deposits by seamen - -	1,048 0 9	1,000 annual average

V. There is a library in connection with the Home and also an hospital.

VI. Alfred B. Duckham, Esq., is the *superintendent* and *secretary* of the Institution. He has continued the Secretary from the first meeting of its originators.

7. GLOUCESTER.

I. The Sailors' Home at Gloucester, opened in 1858, has accommodation for 5 officers and 30 seamen.

II. In 1866 the number of boarders was 433, and 50 casuals, of whom about 200 were foreigners. Their average stay, 3 days.
The weekly charge is 17*s.* 6*d.* for officers; 14*s.* for men, boys, and apprentices.
In 1866 the number of distressed seamen lodged was 5.

III. The *gross income* for 1866 was - - - - £ 186 10 0
Of which inmates paid - - - - £ 134 10 0
Subscriptions, &c. yielded - - - £ 50 0 0
Shipping fees yielded - - - - £ 2 0 0
The outlay on salaries, £19 10*s.*, which is very small for the manager, and it will be necessary to give him a donation. The small balance is owing to the dearness of provisions.

IV.

——	In 1866.
	£ *s.* *d.*
The deposits by seamen - - - -	861 10 0
The sums remitted to friends of seamen - -	3,033 15 2

V. Books are supplied to the inmates by the Chaplain of the Mariners Chapel.

VI. This Home was set on foot by the late Mr. Joseph Sturge, who, with the help of a few friends, undertook to contribute a yearly sum to an existing respectable establishment for boarding sailors.

The first manager left in 1864. His successor reports that in 1865 the deposits of the seamen amounted to 1,500*l.* The difference in 1866 is owing to his not having been previously aware of the advantages to the sailors of the Shipping Office at the Custom House. During the past year he has used his influence to induce the men to give their money to their families and clubs through the Shipping Office.

The present manager is Mr. W. C. Lucy.

Names.

8. GREAT YARMOUTH.

I. The Beachmen's and Fishermen's Institute and British and Foreign Sailors' Home at Great Yarmouth was opened in 1859 as a "refuge" for shipwrecked seamen and a sailors' home, and has now accommodation for 30 seamen (although 80 shipwrecked men have been received at once). The charge for boarders is 2*s.* per day for seamen, and 1*s.* 6*d.* for boys or apprentices. In 1864 412 shipwrecked persons were received; in 1865 210; and in the past year 295, being an annual average of over 300. These large numbers must prove the usefulness, and indeed necessity, of the institution, but they prove also that it cannot be self-supporting. The business of the port has very much declined, so that should a vessel from a foreign port arrive here and pay off her crew, they would leave as soon as possible for some larger port where they can obtain berths when they wish to do so.

IV. The shipping office is at the Custom House, so that the amount of deposits received from, and repaid to, the seamen or their friends is comparatively small here, being principally but small sums left for a few days after the greater part of their wages have been transmitted by the shipping master.

V. There are in connexion with the home a signal station, from which the new commercial code of signals is worked, a large reading room and library, and occasionally lectures.

The number of boarders, destitute and casual, received during the past year was 637.

VI. G. T. Watson, Esq., is *secretary*.

9. HULL

I. The Sailors' Home at Hull, opened in 1860, for 40 boarders, now has accommodation for 5 officers and 40 seamen.

II. In the year ending 30th April 1866 the number of boarders was 1,137; their average stay, 4 days.

Since the opening of the institution there have been 5,717 boarders.

The weekly charge is 14*s.* for officers and men; 12*s.* for boys and apprentices.

In 1866—

The number of shipwrecked seamen relieved	198
„ distressed seamen lodged	31

III.

	£	*s.*	*d.*
The gross income for the year ending 30th April 1864 was	377	19	7
Of which inmates paid	281	11	6
Subscriptions, &c. yielded	52	18	1
Investments yielded	43	10	0
The gross expenditure was	521	10	7
The outlay on salaries, rates and taxes, &c.	225	19	1

IV.

	In 1866.		Since the opening.	
	£	*s.*	£	*s.*
The deposits by seamen	2,320	13	7,556	6
The sums remitted to friends of seamen	1,057	5		

V. There is in connexion with the home a library for the boarders.

VI. Mr. Thomas Haller is *honorary secretary*.

10. LIVERPOOL

I. The Sailors' Home at Liverpool opened in 1844 as a savings' bank and shipping office, and in 1852 for boarders, has accommodation for 345 officers and seamen.

II. In 1866 the number of boarders was 7,808, of whom 774 were foreigners; their average stay, 14 days.

Since the opening of the institution there have been 57,797* boarders, of whom about 6,500 were foreigners.

* The home was burnt down in 1860, and took two years to rebuild; otherwise this number would have been larger.

Names.

LIVERPOOL—*cont.*

The weekly charge is 15*s.* for officers; 15*s.* for able-bodied and 13*s.* for ordinary seamen; 11*s.* 6*d.* for boys and apprentices.

In 1866—

The number of beds occupied - 87,965 or 241 per night.
„ casual beds supplied 500
„ casual meals supplied 650
„ shipwrecked seamen relieved - - 415
„ distressed seamen lodged - - 242

III.

	£	s.	d.
The *gross income* for 1866 was - - -	8,444	17	4
Of which inmates paid - - -	7,200	0	0
Subscriptions, &c. yielded - - -	185	12	0
Investments yielded - - - -	890	0	0
The gross expenditure for provisions was - or 1*s.* 3*d.* per head per diem.	7,349	4	9
The outlay on salaries - - - -	1,311	1	5

IV.

	In 1866.	Since the Opening.
	£ s. d.	£ s. d.
The deposits by seamen - - -	26,452 0 0	559,061 9 2
The sums remitted to friends of seamen, about - - -	1,000 0 0	Exclusive of the sums remitted by the Local Marine Board and Board of Trade.
Investments for seamen in savings' bank, the Board of Trade offices, about - - - - - -	5,430 19 2	

V. There is a school for navigation in connexion with the home; a library is provided, with lectures, concerts, and other entertainments. There were 77,326 engagements of seamen at the Mercantile Marine office last year. Church services are conducted by a chaplain in a large room in the hall. Cases of serious illness are sent to the General Hospital.

VI. Mr. Thomas Hanmer is *superintendent*.

11. NORTH SHIELDS.

I. The Tyne Sailors' Home at North Shields, opened in 1856, has accommodation for 100 seamen.

II. In 1866 the number of boarders was 1,383, of whom 565 were foreigners; their average stay, 11 days.

Since the opening of the institution there have been 9,399 boarders, of whom 2,960 were foreigners.

The weekly charge is 15*s.* for men; 13*s.* for boys and apprentices.

In 1866 there were also 602 casual inmates.

III.

	£	s.	d.
The *gross income* for 1866 was - - - -	1,669	0	0
Of which inmates paid - - - - -	1,377	0	0
Subscriptions, &c. yielded - - -	118	0	0
Investments yielded - - - -	174	0	0
The gross expenditure was - - - - or 2*s.* 5*d.* per head per diem.	1,620	0	0
The outlay on salaries - - - - -	170	0	0

IV.

	In 1866.	Since the opening.
	£ s. d.	£ s. d.
The deposits by seamen - - -	2,649 0 0	15,957 0 0
The sums remitted to friends of seamen	122 0 0	

Names.

NORTHSHIELDS —*cont.*

V. There is a library in connexion with the home, and a Mercantile Marine office and Royal Naval Reserve office under the same roof, but not connected with it. There is also a church near the home.

VI. Mr. George French is *superintendent.*

12. PLYMOUTH

I. The Sailors' Home at Plymouth, opened in 1853, has accommodation for 6 officers and 50 seamen.

II. In 1866 the number of boarders was 644, of whom 106 were foreigners; their average stay, 5 days.

Since the opening of the institution there have been 8,665 boarders, of whom 2,050 were foreigners.

The weekly charge is 18*s.* for officers; 14*s.* for men; 11*s.* for boys and apprentices.

In 1866—

The number of rations issued	-	2,978
„ beds occupied	-	2,994
„ casual beds supplied		17
„ casual meals supplied		34
„ shipwrecked seamen relieved - -	27	Relieved and forwarded by the Shipwrecked Mariners' Society
„ distressed seamen lodged - -	30	

	£	*s.*	*d.*
III. The gross income for 1866 was - -	500	16	5
Of which inmates paid - -	291	16	6
Subscriptions, &c., yielded -	67	6	0
Investments yielded - - -	50	0	0
Donation, rent, and bank interest -	38	3	7
The gross expenditure was - -	497	17	8
The outlay on salaries (including rent, 45*l.*)	145	0	0

IV.

——	In 1866. £	*s.*	*d.*	Since the opening. £	*s.*	*d.*
The deposits by seamen - -	1,666	13	1½	17,301	9	6

V. There is a library in connexion with the home.

VI. Mr. Richard N. Steward is *superintendent.*

13. PORTSMOUTH.

I. The Royal Sailors' Home at Portsmouth, opened in 1851, has accommodation for about 200 seamen.

II. In 1866 the number of boarders was 2,084; their average stay, 7 days.

Since the opening of the Institution there have been about 31,260 boarders.

The weekly charge is 13*s.* for men and 10*s.* 6*d.* for boys and apprentices.

In 1866—

The number of casual beds supplied	-	6,777
„ casual meals supplied	-	6,682
„ shipwrecked seamen relieved - - -		302
„ distressed seamen lodged		956

	£	*s.*	*d.*
III. The *gross income* for 1866 was - - -	1,757	12	8½
Of which inmates paid - - -	1,049	15	6
Subscriptions, &c. yielded - -	540	8	10½
Investments yielded - - -	167	8	4
The gross expenditure was - -	1,487	13	1¾
The outlay on salaries - - -	398	19	5

Names.

PORTSMOUTH —*cont.*

IV.

	In 1866.	Since the opening.
	£ s. d.	
The deposits by seamen - -	10,445 2 4½	
The sums remitted to friends of seamen - - - -	9,903 15 5½	About 70,000*l.*
Investments for seamen in savings' bank - - - -	591 12 10	

V. A church and an evening school were opened in connection with the Home, and every effort made to fulfil the promise to the public, held out in the prospectus and in the various reports, but from some reasons peculiar to the men-of-war's men, they have failed.

There is a library; occasional lectures are delivered; gratuitous medical attendance is given, and Haslar Hospital is available when necessary.

VI. J. L. Thorne, Esq., Paymaster, R.N., is *superintendent and secretary.*

14. RAMSGATE

I. The Sailors' Home at Ramsgate, opened on the 1st of January 1867, has accommodation for 2 officers and 14 seamen.

The charge is 3*s.* for officers; 3*s.* for men: and 3*s.* for boys and apprentices.

V. A library and reading room are provided in connexion with the home.

VI. Henry Knox, Esq., Commander R.N., is *honorary secretary.*

15. SOUTHAMPTON.

I. The Sailors' Home at Southampton, opened in 1861 for 60 boarders, now has accommodation for 50 officers and seamen. As many as 70 boarders on one occasion were in the home for a week.

II. In 1866 the number of persons using the home was 4,001, of whom 292 belonged to the Royal Navy; their average stay, 4 days.

Since the opening of the institution there have been 19,301 beds occupied by boarders.

The weekly charge is 14*s.* for officers and men; 12*s.* for boys and apprentices.

In 1866—

The number of rations issued - - -	11,918
,, beds occupied - -	3,533
,, shipwrecked seamen relieved	174
,, distressed seamen lodged -	267

	£ s. d.
III. The gross income for 1865 was - -	486 8 0
Of which inmates paid - - -	325 2 1
Donations, subscriptions, &c., yielded	153 18 0
Investments yielded - - -	7 7 11
The gross expenditure was - -	465 15 8
*or 3*s.* 1½*d.* per head per diem.	
The outlay on salaries - - -	73 11 0

V. There is a reading room, free of all charge, in connexion with the home.

VI. Mr. G. S. Coxwell is *honorary secretary.*

16. SUNDERLAND.

I. The Sailors' Home at Sunderland, opened in 1852, has accommodation for 35 officers and seamen.

II. In 1866 the number of boarders was 650, of whom perhaps one-half were foreigners. Their average stay, 10 days.

* The heavy rate per head (apparent here) is due partly to the fact of sundry casual extra expenses, but mainly to the small number of boarders on whom the whole cost of the fixed charges has to be reckoned, as compared with the number capable of being accommodated in the home. The actual cost for victualling is a fraction less than 1*s.* 6*d.* per head per diem after charging the cost of *all* provisions for master, matron, and porter to the general provision account.

Names.

SUNDERLAND —*cont.*

Since the opening of the institution there have been about 8,000 boarders, of whom one-half were foreigners.

The weekly charge is 14*s.* for officers and men, and 12*s.* for boys and apprentices.

	£	*s.*	*d.*
III. The *gross income* for 1866 was	780	0	0
Of which the inmates paid	660	0	0
Subscriptions, &c. yielded†	120	0	0
The gross expenditure was about or about 1*s.* 9*d.* per head per diem.	800	0	0
The outlay on salaries, &c.	150	0	0

V. There are in connection with the Home a reading room, occasional lectures, a Mercantile Marine office, a Royal Naval Reserve office, and a Money office.

VI. Mr. James Milne is *superintendent.*

17. CARDIFF.

I. The Sailors' Home at Bute Docks, Cardiff, opened in 1856, for 40 boarders, now has accommodation for 20 officers and 120 seamen.

II. In 1866 the number of boarders was 1,748, of whom 349 were foreigners (paid off from British ships); their average stay, about 8 days.

Since the opening of the Institution there have been 16,145 boarders, of whom 3,568 were foreigners.

The weekly charge is 14*s.* for officers and men, and 12*s.* 6*d.* for boys and apprentices.

In 1866—

The number of rations issued, about	14,926
„ casual beds supplied	420
„ casual meals supplied	1,248
„ shipwrecked seamen relieved	82
„ distressed seamen lodged and kept until employment was found for them	614

	£	*s.*	*d.*
III. The *gross income* for 1866 was	1,558	10	3
Of which inmates paid	978	5	6
Rent and Subscriptions, &c. yielded	72	17	0
Investments yielded			
Balance paid by Marquis of Bute	507	7	9
The gross expenditure was	1,558	10	3
Or 2*s.* 7½*d.* per head per diem; daily cost for provisions only 1*s.* 6*d.* each.			
The outlay on salaries	237	13	3

IV.

	In 1866.			Since the opening.		
	£	*s.*	*d.*	£	*s.*	*d.*
The deposits by seamen	965	7	0	5,448	19	10
The sums remitted to friends of seamen	162	4	5	1,379	8	6

V. There are in connection with the Home a library and a church; and various amusements are provided as an inducement for seamen to remain and spend their evenings at the Home.

VI. This Home was built at the cost of Lord Bute's trustees for 6,000*l.* exclusive of the value of the ground.

The number of boarders would be larger, but for the fact that a large proportion of the seamen here are deserters from other ports, who cannot be admitted.

A system of credit has to be followed here to a considerable extent, because few ships pay off their crews at Cardiff.

Upwards of 12,000 men shipped last year at the Board of Trade Shipping office, besides many thousands in foreign ships.

Henry McAusland, Esq., R.N., is *superintendent.*

† Complaints are made of the difficulty of obtaining subscriptions, which in a town like Sunderland is remarkable.

Names.

18. MILFORD — No information has been received from this Home in reply to various communications which have been sent to it.

19. SWANSEA — I. The Sailors' Home at Swansea opened in May 1864 for 80 boarders, now has accommodation for 23 officers and 107 seamen.

II. In 1866 the number of boarders was 1,365, of whom about half were foreigners; their average stay, 9½ days.

From the opening of the institution to 31st December 1866 there have been 3,235 boarders, of whom nearly half were foreigners.

The weekly charge, since November 1866 has been 17*s.* 6*d.* for officers, formerly 16*s.*; 14*s.* for men; 12*s.* 6*d.* for boys and apprentices, formerly 10*s.* 6*d.*

In 1866—		
The number of beds occupied	130	for general and casual lodgers.
,, casual meals supplied	462	
,, shipwrecked seamen relieved	50	
,, distressed seamen lodged	455	

	£	£
III. The gross income for 1866 was, from	1,500 to	1,600
of which inmates paid	All.	
Subscriptions, &c. yielded, whatever may be voted by the Sailors' Society, of which we hope to receive about	50 or	60
The gross expenditure was considerably in excess, say about 400*l.*, in consequence principally of the very high price of provisions.		
The outlay on salaries	200	

IV.

—	In 1866.	Since the opening.
	£	£ *s.* *d.*
The deposits by seamen	5,463	13,213 11 4
The sums remitted to friends of seamen	A considerable portion of the above amount, but no distinct account is kept.	

V. This Home was established by the Swansea Sailors' Society, now in its thirty-second year of missionary work. It was erected and furnished at a cost of 4,017*l.*, raised by voluntary subscriptions. The site was granted by the Corporation at a nominal rent.

There is a library in connection with the Home, and lectures are proposed. There are also a shipping office, likewise a sailors' church and a chapel, both now managed by separate and distinct committees and organization.

VI. This information has been furnished by James C. Richardson, Esq., J. P., Vice-President. Mr. William Cole is the *superintendent*.

20. ABERDEEN — The home at this port, opened in March 1851, was closed several years ago.

21. GLASGOW — I. The sailors' home at Glasgow, opened in 1857, has accommodation for 123 officers and seamen.

II. In 1866 the number of boarders was 2,165, of whom 715 were foreigners; their average stay, 7 days.

Since the opening of the institution there have been about 17,000 boarders, of whom about 4,000 were foreigners.

The weekly charge is 17*s.* 6*d.* for officers; 14*s.* for men; 12*s.* 3*d.* for boys and apprentices.

Names.

GLASGOW—*cont.*

In 1866 the number of beds occupied averaged 42 each night.

Shipwrecked seamen are occasionally relieved and distressed seamen lodged. All the expense has been paid by the Shipwrecked Mariners' Society. There were about 100 such cases in 1866.

III. The *gross income* for 1866 was 1,500*l.*, of which inmates paid the whole.

The gross expenditure was 1,200*l.* to 1,300*l.* for food only and servants' wages.

In this home there are two distinct parties interested, with separate incomes and expenditure.

1. That of the Committee, acting for the subscribers who built and furnished the home.

Their income arises (1) from occasional subscriptions and donations, which at present are small (there is no periodical contribution); and (2) from the rents of shops on the street floor of the building; and from the rent of portion of it occupied by the Mercantile Marine Board.

The total income thus arising was in 1866—

	£
Donations - - -	90
Rents - - - -	250
	340

The expenditure consists of—

	£
Interest of money on bond and open accounts, which on the bond only in 1866 was - - - - -	221
Tradesmen's accounts - - -	133
Taxes and fire insurance - - -	111
	465

The debt due by the Committee, 31st December 1866, was 5,000*l.* on a bond on the building, and about 1,246*l.* on advances made by the treasurer, to whom a large amount of postponed interest is still due, none having been paid him for several years.

2. That of the Superintendent, who conducts all relating to the seamen boarders at his own risk and expense.

He receives from them their board money at the rates stated. This in 1866 amounted to 1,500*l.* or thereabouts.

He supplies food, and pays for coal, gas, and water for cooking and washing. No drink but water allowed.

He pays no rent to the committee. The amount of his outlay is not known to the committee, being considered as a private undertaking, with the profit or loss on which they have nothing to do.

The former superintendents all say they lost money by the concern, chiefly owing to seamen going off without paying for their board or giving monthly notes in payment which were not honoured in consequence of the men not joining their ships.

The Superintendent receives no salary, and pays all the attendants.

IV. The deposits by seamen amount to 2,006*l.* 10s. since the opening.

V. There is a navigation school in an adjoining building, independent of the home; there is a library; lectures were tried some years ago, but few seamen came; and a Mercantile Marine office and Royal Naval Reserve office in an adjoining building, connected with the Board of Trade; there is a church under the charge of the Seamen's Friend Society, about 20 yards off; there is a receiving house for letters, and money order office in connexion with Mercantile Marine office. There is no hospital in the home; any cases that occur are sent to the Royal Infirmary.

VI. William Euing, Esq., is *chairman* of the committee of managers and *treasurer*.

Names.

22. GREENOCK

I. The Sailors' Home at Greenock, opened in 1852 for 42 boarders, now has accommodation for 20 officers and 60 seamen.

II. In 1866 the number of boarders was 1,480, of whom 500 were foreigners; their average stay, 3 to 10 days.

Since the opening of the institution there have been 13,936 boarders, of whom one-third were foreigners.

The weekly charge is 17*s.* 6*d.* for officers; 14*s.* for men; 10*s.* 6*d.* for boys and apprentices.

All expenses are defrayed by the money received for boarding. The home is thus self-supporting, although the Superintendent's remuneration is small.

V. There are in connexion with the home a navigation class, library, lectures of a religious nature, and a church.

VI. Mr. John Duncan is *superintendent.*

23. LEITH -

I. The Sailors' Home at Leith, opened in 1854, has accommodation for 4 officers and 33 seamen.

II. In 1866 the number of boarders was 1,041, of whom 467 were foreigners; their average stay, 5 days.

Since the opening of the institution there have been 9,891 boarders, of whom 3,437 were foreigners.

The weekly charge is 17*s.* 6*d.* for officers; 14*s.* for men; 12*s.* for boys and apprentices.

In 1866—

The number of casual beds supplied - -	959
„ distressed seamen lodged - -	176

III.

	£	*s.*	*d.*
The gross income for 1866 was - - -	573	15	8
of which inmates paid - - -	533	15	8
Subscriptions, &c. yielded - -	40	0	0
The gross expenditure (including the superintendent's profit, which is in place of salary*) was - - - - -	573	15	8

IV.

—	In 1866.		
	£	*s.*	*d.*
The deposits by seamen - - - -	1,154	5	0
The sums remitted to friends of seamen - -	180	0	0

V. There is a library in connection with the Home.

VI. The Home is conducted by the Superintendent Mr. Sharp, who is tenant of the premises. There is a restaurant separate from the Home, but under the same roof and management, to which the working classes are admitted.

The Home is conducted on strictly teetotal principles, and is found to work well.

24. STORNOWAY.

No reports have been published on this Home. It is under the direction of Sir James Matheson, Bart., who has given the house for the benefit of sailors and fishermen.

25. BELFAST -

I. The Sailor's Home at Belfast, opened in 1851 for 60 boarders, now has accommodation for 5 officers and about 100 seamen.

II. In 1865 the number of boarders was 532, of whom about 100 were foreigners. Their average stay, 8 days.

Since the opening of the institution there have been about 7,000 boarders, of whom about 1,000 were foreigners.

* By arrangement with the Committee of the Home, the superintendent is bound down as to the charges to sailors, and takes upon himself payment of rent and all other charges, the Committee allowing him a subsidy of 40*l.* per annum.

Names.

BELFAST—*cont*

The weekly charge is 1*l.* 11*s.* 6*d.* for officers, 14*s.* for men, and 10*s.* 6*d.* for boys and apprentices.

In 1865—

The number of rations issued	-	Three per day to each boarder.
„ beds occupied	-	10 per diem on on average.
„ casual beds supplied	-	10 „
„ casual meals supplied	-	13 „
„ shipwrecked seamen relieved		53
„ distressed seamen lodged	-	53

	£	*s.*	*d.*
III. The *gross income* for 1865 was - - - -	364	1	7
Of which inmates paid - - - -	160	3	10
Subscriptions, &c. yielded - - -	193	13	0
Investments yielded - - - -	97	18	4
The gross expenditure was - - - -	343	0	0
The outlay on salaries - - - -	62	16	8

IV.

	In 1865.	Since the opening.
The deposits by seamen - -	942*l.*	2,000*l.* nearly.
The sums remitted to friends of seamen - - - - -	800*l.*	—

V. There are in connection with the Home occasional lectures, a library, a seamen's church (Presbyterian), in the immediate vicinity; and in addition to the services of an honorary physician and an honorary surgeon, the inmates have free admittance to the Belfast General Hospital.

VI. The Chevalier Gustavus Heyn, Royal Belgian consul, is one of the *trustees and honorary secretary.*

26. CORK -

I. The Royal Sailors' Home at Cork opened in 1853 for 20 boarders, now has accommodation for 14 officers and 60 seamen.

II. In 1866 the number of boarders was 502, of whom 71 were foreigners. Their average stay, 3 days.

Since the opening of the institution there have been 5,402 boarders, of whom 693 were foreigners.

The weekly charge is 1*l.* 1*s.* for officers; 14*s.* for men; and 12*s.* for boys and apprentices.

In 1866—

The number of beds occupied at one time	-	59
„ casual beds supplied	-	130
„ casual meals supplied	-	217
„ shipwrecked and distressed seamen relieved and lodged	-	196

Average income in old house - - - - - 275*l.*

Estimated income required for new house, lately taken 375*l.* to 580*l.*

	£	*s.*	*d.*
III. The *gross income* for 1866 was - - -	207	15	0
of which inmates paid - - - -	20	0	0
Subscriptions, &c., yielded - -	240	0	0
Investments yielded - - -	11	0	0
The gross expenditure was including repairs, &c. - - -	375	0	0
The outlay on salaries was - - -	53	0	0

IV.

	In 1866.		Since the opening.
	£	*s.*	£
The sums deposited by seamen - -	2,501	8	17,666
The sums remitted to friends of seamen	1,700	0	—

Namse.

CORK—*cont.*

V. There are in connection with the Home a school and library, and a Mercantile Marine office is shortly to be established.
VI. Captain Thomas Stuart, R.N., is the *hon. secretary.*

27. DUBLIN -

I. The Sailors' Home at Dublin has been in operation for 16 years.
II. There is a dining hall for 10 or 12 men, and 16 beds are made up. 169 shipwrecked men were forwarded to their destinations in 1865 by the secretary as Honorary Agent to the Shipwrecked Mariners' Society.
III. The income for 1865, 536*l.* 7*s.* 11*d.*, included 313*l.* 15*s.* 1*d.* from boarders.
Salaries and wages, 71*l.* 18*s.* 9*d.*
IV. The deposits with the secretary, 824*l.* 19*s.* 4*d.*
V. A Navigation School on the premises is well atttended.
VI. Richard Marshall, Esq., is *secretary and superintendent.*

28. LIMERICK

The Limerick Sailors' Home, of which Mr. James Speight is *Secretary*, has never been opened, owing to a deficiency of funds and a large debt on the building. It is let as a barrack till clear of its present liabilities.

29. QUEENSTOWN.

I. The Royal Sailors' Home at Queenstown, opened in 1854 for 17 boarders, now has accommodation for 6 officers and 24 seamen.
II. In 1866 the number of boarders was 880; their stay, 1 to 30 days.
Since the opening of the institution there have been 6,467 boarders.
The weekly charge is 17*s.* 6*d.* for officers; 14*s.* for men; 14*s.* for boys and apprentices.
In 1866—

The number of beds occupied - -	880
,, shipwrecked seamen relieved - - -	81
,, distressed seamen lodged	36

	£	*s.*	*d.*
III. The gross income for 1866 was - - -	218	7	11
Of which inmates paid - - -	152	2	6
Subscriptions, &c., yielded - -	66	5	5
The home is catered for by a paid steward; uncertain what his gross expenditure exactly has been.			
The outlay on salaries - - -	17	10	0

IV.

	In 1866.	Since the opening.
	£	£
The deposits by seamen - - -	1,430	14,604

V. There is a library in connexion with the home, a Mercantile Marine office, at which 342 seamen were shipped last year, and a Royal Naval Reserve office.
VI. The above information has been kindly furnished by Captain J. Moresby, R.N.

APPENDIX.

N.B.—The following paper, published by the Directors of the Home in Well Street, is printed here, for the purpose of showing the nature of the advantages offered by Sailors' Homes to the class for whose benefit they are established, as well as some of the arrangements for the practical working of such an institution.

ADDRESS TO OFFICERS AND SEAMEN WHO FREQUENT THE PORT OF LONDON.

The Directors of the Sailors' Home are anxious that seamen should clearly understand that the Institution was designed for their sole benefit, and established with a view of protecting them from the systematic extortion of crimps, and other snares to which their circumstances and calling render them peculiarly liable; and, above all, to promote their moral elevation, social improvement, and religious instruction.

The rules by which the Institution is governed are, as far as practicable, adapted to meet the habits of all who participate in its benefits, and to further their best interests. It is conducted on principles of order, comfort, and liberality; and no restraint is exercised beyond that which common prudence and mutual interests require. In the "Home" thus provided, which embraces security, freedom of action, and social enjoyment, the Directors desire to create and sustain mutual sympathy, trust, and goodwill, and to employ those agencies which tend most to mature habits of frugality, self-respect, and the love of God.

Advantages of the Institution.

Protection.—This embraces every possible arrangement for securing the persons and property of seamen, both before and after receiving their wages, from the imposition to which they are exposed.

Comfort.—Under this head are included medical attendance, a separate cabin, four good and substantial meals a day, with excellent attendance, at a fixed and moderate charge, and the best advice of the officers of the "Home" on all occasions.

Recreation.—In-door and out-door amusements, such as chess, draughts, bagatelle, skittles, &c.; a good library, and a course of useful and entertaining lectures during the winter months.

Professional Improvement.—This is provided for in a navigation school established on the spot, and conducted by an able and experienced master, who prepares both officers and seamen for the examinations required by the Mercantile Marine Act.

Religious Instruction.—Comprising domestic prayer morning and evening in the "Home," and Divine service in the seamen's church immediately adjoining; the watchful care and good counsels of the chaplain and his staff at all times; together with the use of Bibles and religious publications, which may be purchased at the repository established on the premises.

Post Office.—A necessary and safe medium of communication between seamen and their families.

Slops.—Tradesmen are permitted to exhibit a list of their prices in the "Home" for the information and protection of seamen; but no slop-seller is allowed to press his solicitations for custom on the premises. Seamen have also the opportunity of submitting their tradesmen's bills to the secretary, cashier, or superintendent for examination, when there is any doubt as to the justice of the claim.

Mercantile Marine Office.—This is under the control of the Board of Trade, and forms part of the establishment. Here seamen may choose their ship, and the voyage they wish to undertake; and, when paid off, they may at once deposit their wages with the cashier. The Royal Naval Reserve Office being also attached to it, seamen may enrol themselves for that service.

Advance Notes.—These, when issued, are dealt with on the most liberal terms, being either cashed at once or collected when due, and the amount remitted to the friends of the seamen. At the same time the Directors wish seamen clearly to understand that they deal with these notes solely to protect them from the extortions of discounters outside the building, and with no intention of countenancing a system of advances, so often fraught with injurious consequences both to the sailor and his employer. Nor can the Directors sufficiently deprecate the conduct of those men who, after receiving cash, or its equivalents in board, &c. for their notes, wilfully fail to fulfil the engagement to which they have solemnly affixed their names, thus inflicting a pecuniary loss upon the holders of the notes, and wronging those who have engaged their services. The Directors are willing to believe that men guilty of this conduct have not seriously considered the enormity of their twofold offence, nor the material injury their own characters sustain by such fraudulent practices.

Allotment Notes.—These notes are intended for the support of the families of seamen, and, when granted, will, if payable in London, be collected and remitted by the cashier to the persons in whose favour they are drawn.

Seamen's Savings' Bank.—This bank is established, under the Board of Trade, for the purpose of encouraging habits of economy and prudence in seamen. Any sum, from 5*s.* to 200*l.*, may be deposited therein at 3 per cent. interest, and withdrawn at any seaport in the United Kingdom.

Money Orders.—These are issued to seamen in order that they may remit their wages to any friend or relative, and, instead of carrying unnecessary sums about their persons, may receive payment at the place of their destination.

Agents.—Persons are employed to attend the principal Mercantile Marine offices in London to receive the wages of seamen, with a view of protecting them from the depredations of crimps and others.

The Directors earnestly entreat seamen to take advantage of all these precautions and safeguards, which are solely organized to promote their interest and welfare.

Carman.—A man attends the various docks to disembark seamen and convey their chests, &c., to the "Home," at a fixed and reasonable charge. His services are also available for the conveyance of seamen and their luggage from the "Home" to the railway stations, docks, or elsewhere.

Since the opening of the Institution in May 1835, to the 30th of April 1866, 169,905 sailors have been received into the "Home," of which number 49,286 have been old or returned boarders; and the sum of 1,358,704*l.* has been deposited by sailors in the Institution, of which 766,018*l.* has been drawn out by sailors, 496,301*l.* has been remitted to their friends, and 50,062*l.* invested in the Savings' Bank.

To Officers of the Mercantile Marine.

The "Home" is now in a position to offer a separate mess-room and distinct sleeping accommodation to masters and mates, at a trifling additional charge.

Masters attending the Mercantile Marine Office, and the friends of officers boarding at at the "Home," may, with the permission of the Secretary, obtain an excellent dinner in the officers' mess-room at a moderate charge.

N.B.—Masters will find the most favourable opportunity of engaging picked men in the Mercantile Marine Office established in the "Home," and every facility for discharging their crews on their return.

Terms.— Officers of the Mercantile Marine availing themselves of the separate accommodation provided will be charged at the rate of 18*s.* 6*d.* per week, washing included.

Seamen, apprentices, and boys will have to pay at the rate of 15*s.* per week for board and accommodation, which will include a reasonable amount of washing.

Seamen arriving at the "Home" after being paid off will be expected to pay at least one week's board in advance.

Each boarder will have a separate account in the ledger, where every cash transaction will be duly recorded; and the Institution is responsible for all monies deposited by the boarders. Sextants, and similar valuables, if lodged with the cashier or superintendent, will be considered in the care of the Institution; but it must be understood, however, that the Institution is not liable for robbery, theft, or loss of any articles from the cabins (whether kept or left locked or not) or dormitories, nor from the mess-rooms, recreation rooms, or any other part of the building.

After a boarder's chest or other luggage has been lodged in his cabin, and while he is waiting to receive his wages, the superintendent is authorized to advance him a sum of money not exceeding 20*s.*, porterage included. All private money transactions with the officers or servants of the Institution are strictly prohibited.

When a boarder's name is entered, his charge for board will go on, unless notice to the superintendent or accountant be given to the contrary at 4 p.m. on the previous day.

Any boarder wishing to deposit property, luggage, &c. in the care of the Institution, during his absence, must give the superintendent the necessary informarion thereof, when it will be placed in the safe custody of the storekeeper until his return.

Should a boarder, on quitting the "Home," leave any property in his cabin, or in the hands of the washerman, without informing the superintendent, the Institution cannot be answerable; and it will be sold at the expiration of two years as "unclaimed property."

If a boarder go away in debt to the Institution, leaving property, the latter will be sold after the expiration of two years, for the benefit of the "Home," unless the debtor communicate with the Secretary in the interval, holding out a reasonable prospect of redeeming the same.

Hours.—Morning and evening prayers will be held daily in the dining hall at 7.30 a.m. and 8.30 p.m., punctually and regularly throughout the year; and it is earnestly hoped that the boarders will take part in the worship.

The street door is closed at 11.30 p.m.; but boarders wishing to remain out after that hour are admitted by a pass from the superintendent.

Breakfast will be served at 8 a.m., dinner at 1 p.m., tea at 5.30 p.m., and supper at 9 p.m. Men unavoidably absent at the appointed meal times may be afterwards served in the steward's kitchen, on application to the superintendent. For the sake of regularity, and on account of the servants, it is hoped that the men will attend punctually at meals.

The officers' dinner will be served in their mess room at 1.15 p.m., or as late as 3 p.m. in another apartment.

Divine Service is held in the Seamen's Church adjoining the "Home" on Sundays at 11 a.m. and 6.30 p.m.; also on Thnrsdays at 7 p.m. A prayer meeting will also be held in the "Home" every Tuesday evening at 7 o'clock.

Conduct.—All swearing and improper language, so unbecoming the character of a man, and so dishonouring to God, must be entirely avoided.

Drunkenness, that disgraceful vice which sinks a man to the level of the very beasts that perish, and which is so contrary to order and decency, the men must judge of themselves cannot be permitted.

Smoking must be confined to the reception hall on the ground floor, and the court-yards and recreation room in the basement. In the library, dining hall, and dormitories smoking is prohibited: and lucifer matches, also, are strictly forbidden.

Notice.

Gravesend.—Three boatmen are paid to board all vessels on arrival at Gravesend, and to distribute cards setting forth the advantages of the Sailors' Home; and whereas some boarding-house keepers and slop-dealers, by means of their runners, are in the habit of exhibiting cards purporting to come from the Sailors' Home, seamen are informed that all circulars, cards, &c., issued by the Directors, will be signed by the Secretary, and bear the authenticated stamp or woodcut of the Institution.

By order of the Directors,
W. H. Webb, *Secretary.*

21.

V.—LOCALITIES CLAIMING TO HAVE SPECIAL INSTITUTIONS.

THE TOWN OF HALIFAX.

1. General statement.

PARTICULARS OF LOCALITY.

THE town and borough of Halifax, in the West Riding of the county of York, was created a municipal borough by royal charter in 1848. The council of the borough consists of 40 members, namely: A mayor, 10 aldermen, and 30 councillors, the mayor being one. It has the entire local government of the town.

The population of the borough is estimated at 56,000, and the area covered is 3,768 statute acres, which is divided into 10 wards, each ward is represented in the council by one alderman and three councillors.

The gross estimated annual value of property within the borough is, according to the valuation made for rating purposes, 166,041*l.* 13*s.* 4*d.*

MUNICIPAL INSTITUTIONS.

The council of the corporation has established, or otherwise acquired for the public good, water-works, gas-works, markets, and other properties, which, taken together, produced in 1866 a net annual profit of 7,043*l.* 16*s.* 11*d.* as per following table.

TABLE No. 1.

——	Total Cost.			Annual Income.			Annual Expenditure.			Profit.			Present Loss.		
	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
Water Works -	164,023	6	3	11,292	11	11	10,025	17	9	1,266	14	2	—		
Gas Works -	138,821	2	9	31,960	1	0	25,143	8	8	6,816	12	4	—		
Markets -	33,269	3	2	2,572	17	8	1,684	4	1	888	13	7	—		
Baths - -	6,794	1	7	516	19	0	431	2	11	85	16	1	—		
Cemetery -	14,931	11	2	266	9	6	1,093	11	4	—		—	827	1	10
Town Hall -	52,750	1	10	165	0	0	1,350	2	8	—		—	1,185	2	8
Stone Quarries	5,355	11	0	235	5	3	237	0	0	—		—	1	14	9
£	415,944	17	9	47,009	4	4	39,965	7	5	9,057	16	2	2,013	19	3
							Deduct loss			2,013	19	3			
							Net profit			7,043	16	11			

The council is also enlarging the water-works undertaking, and is acquiring for the like object certain other properties, as follows:—

TABLE No. 2.

——	Estimated Cost.			Already Expended.		
	£	*s.*	*d.*	£	*s.*	*d.*
Water Works - - -	125,000	0	0	78,345	2	7
Markets - - - -	1,675	1	8	140	0	0
Inland Bonding Warehouse	2,084	5	6	1,090	0	0
Savile Park, an open recreation ground, containing 65 acres; probable cost -	5,000	0	0	130	5	0
£	133,759	7	2	79,705	7	7

The corporation is also possessed of a public park or recreation ground called "The People's Park," given in 1858 by Sir Francis Crossley, Bart., M.P.

This park is situate in the centre of the borough, and covers about 12½ acres. It cost Sir Francis Crossley 35,000*l.*, who has also given to the Corporation the sum of 6,300*l.* to be invested for its maintenance.

Names.

THE TOWN OF HALIFAX—*cont.*

The total cost or value of the properties acquired, or in the course of being acquired for the public good is 584,704*l.* 4*s.* 6*d.*, namely:—

	£	*s.*	*d.*
Works and properties already constructed, as per Table No. 1.	415,944	17	4
In the course of construction, as per Table No. 2.	133,759	7	2
The People's Park	35,000	0	0
Total value of municipal properties	584,704	4	6

The council have also expended for the improvement of the public health in sewerage works, 55,596*l.* 18*s.* 3*d.*

The expenditure of the borough, exclusive of the maintenance and management of the several works and properties before mentioned, amounted in 1866 to 27,276*l.* 7*s.* 5*d.*, and consists of the following items, namely:—

	£	*s.*	*d.*
The Police Force	3,740	17	5
The Fire Brigade	114	1	8
The Maintenance of the People's Park	316	16	9
The Paving, Lighting, and Scavenging the Streets and Highways of the Borough	10,997	8	6
The Widening and otherwise improving the Streets and Highways	3,385	10	0
The Interest upon Amount Borrowed for Sewerage Purposes	2,382	11	4
The Interest upon Amount Borrowed for Property purchased for Widening Streets and Highways	853	12	10
The Interest upon Amount Borrowed for Water Works in the course of Construction	3,415	7	0
The Bonding Warehouse	62	10	11
The General Expenses, including Salaries of Officers, Printing, &c.	2,007	11	0
Total	£27,276	7	5

This expenditure is met, first by the profits of the properties and works of the Corporation, as shown by Table No. 1; and secondly, by rates levied according to the rateable value of property within the borough. The rates for 1866 amounted to 2*s.* 6*d.* in the 1*l.* If the Corporation had not been possessed of the various properties mentioned, the rates would have been at least 3*s.* 4*d.* in the 1*l.*

As an exemplification of the rapid increase of property within the borough, the following Table has been compiled:—

	£	*s.*	*d.*
In 1854 Total Rateable Value was	77,414	0	0
In 1857 „ „	86,764	0	0
In 1859 „ „	92,668	0	0
In 1861 „ „	109,628	0	0
In 1863 „ „	115,054	0	0
Extended Area, mostly Suburban.			
In 1865 Total Rateable Value	166,041	0	0

The town of Halifax is the capital or centre of a populous manufacturing district, noted as being the seat of the worsted trade.

The aggregate engine horse power of the manufactories in the municipality is estimated at 3,700 nominal horse power.

The number of operatives or working people employed in manufacturing pursuits will be 20,000.

The borough returns two members to Parliament, namely, James Stansfeld, junior, Esquire, M.P., and Edward Akroyd, Esquire, M.P., both natives of the town; and it is the birth-place and residence of three other members of Parliament, namely, Sir Francis Crossley, Baronet, M.P., member for the West Riding of the county of York, Sir Henry Edwards, Baronet, M.P., member for Beverley, and Samuel Waterhouse, Esquire, M.P., member for Pontefract, both being boroughs within the same county.

Names.

THE TOWN OF HALIFAX—*cont.*

The various voluntary charitable, industrial, and literary institutions within the municipality, all of which tend more or less to develope a spirit of harmony among the community of this locality, and to provide for the material, moral, and intellectual well being of the working classes, are set out in the following schedules :—

CHARITABLE INSTITUTIONS.

Name of Establishment or Institution.	Actual Amount Invested in Buildings and Endowments.	Annual Income or cost of Management from Voluntary Sources.	Number of Members or Persons benefited during the Year.
	£	£	
The Halifax Infirmary and Dispensary.	10,000	1,400	5,260
Sir Francis Crossley's Almshouses sustained by Founder (excluding Endowment).	5,700	500	24
Mr. Joseph Crossley's Almshouses sustained by Founder (including Endowment).	20,000	600	33
Nathaniel Waterhouse's Charities: alms-houses for 24 almswomen, and schools for 40 children.	15 000	1,500	84
Orphanage Home, founded by John Crossley, Joseph Crossley, and Sir Francis Crossley, Baronet (exclusive of sum for endowment now paid by the founders); building intended for 400 scholars.	55,000	3,000	142
The Ragged School - -	Nil	150	69
Total -	105,700	7,150	5,592

SUNDAY AND DAY SCHOOLS.

Name of Establishment.	Cost of Building.	Expenditure.	Number of Persons benefited.
	£	£	
St. John's Church School - -	2,500	612	1,239
Holy Trinity „ - -	2,000	200	595
St. James's „ - -	3,000	525	682
St. Paul's „ - -	2,000	315	400
All Saints „ - -	1,300	175	360
All Souls „ - -	—	100	1,000
Christ Church „ - -	2,300	268	314
St. Thomas „ - -	1,200	16	230
Sion Independent - - -	2,000	202	218
Wesleyan School (Orange Street)	2,000	254	220
Wesleyan Sunday School - -	—	38	450
Northgate End „ - -	400	30	171
Siddal Wesleyan „ - -	70	15	140
Booth Town „ - -	750	30	150
Hopwood Lane „ - -	800	30	200
South Parade „ - -	2,000	40	430
Burnley Road New Connexion -	—	15	150
North Parade, Baptist - -	800	23	400
Pellon Lane, Baptist - -	1,505	55	535
Range Bank - - -	1,500	60	800
Booth Town, Primitive Methodist	—	10	120
Salem, North Parade - -	1,500	55	750
New Bank, Primitive Methodist -	400	14	200
Southowram Bank - - -	400	24	206
Siddon Hall - - - -	600	30	170
Lister Lane - - - -	—	35	406
Square Chapel - - -	3,000	260	1,000
King Cross - - - -	—	15	150
Ebenezer - - - -	500	28	208
Harrison Road and Branch -	2,000	70	820
Hanover Street - - -	1,000	64	403
Total -			

No returns have been received from several schools.

Names.

THE TOWN OF HALIFAX—*cont.*

RELIEF AND FRIENDLY SOCIETIES.

—	Sums invested.	Annual Payments.	Number of Persons benefited.
	£	£	
Tradesmen's Benevolent Institution for decayed Tradesmen.	5,000	450	28
Loyal Georgian Sick Club - -	2,836	230	207
Halifax District of Odd Fellows, M. U.	11,995	2,123	1,831
Order of Foresters - - -	970	98	122
Philanthropic - - -	1,280	103	96
Total -			

There are many other sick and relief clubs within the borough but not solely confined to the municipality; it is therefore impossible to give direct information upon the state of these institutions.

INDUSTRIAL AND CO-OPERATIVE INSTITUTIONS.

Name of Institution.	Capital, Buildings, or Investments.	Profits, 1866.	Members.
	£	£	
Halifax Industrial Company, Limited, Co-operation by workmen	24,246 } 7,200 }	13,749	6,000
John Crossley & Sons, Limited; a trading company, having special objects and institution. (See their return.)	1,092,840	218,568	1,031
Halifax Flour Society, Limited -	26,311	5,553	2,346
Halifax Cotton Company, Limited	22,539	1,890	458
Skircoal Cotton Company, Limited	30,065	—	172
Total -	1,199,201	239,760	10,007

There are also other co-operative establishments within the borough, but no returns have been received.

LITERARY INSTITUTIONS.

Name of Institution.	Cost.	Expenditure.	Number.
	£	£	
Halifax Literary and Philosophical Society, embracing a Museum and Library of 14,750 volumes.	9,000	320	260
Working Men's College, Haley Hill.	Returned by Messrs. James Akroyd & Sons.		
Mechanics' Institute; books, 6,500 volumes.	9,000	315	790
Dean Clough Institute; library, 3,279 volumes.	Returned by Messrs. John Crossley & Sons, Limited.		
Church Institute; library, 1,440 volumes.	—	110	250
School of Art - - -	—	70	210
Halifax Exchange and News-room	—	520	557
Total -	18,000	1,335	2,067

STATISTICAL AND COMMERCIAL INSTITUTIONS.

The Halifax Chamber of Commerce, the objects being to watch the interests of merchants and manufacturers of the town; also to advise on commercial treaties with foreign countries. Income, 180*l.*; members, 105.

The Halifax Piece Hall or Manufacturers' Sale Rooms is a quadrangular building, containing 315 rooms, with open square in the centre. It was erected by the manufacturers of Halifax by subscription in 1779, upon 10,000 yards of land given by Mr. Caygill, a resident merchant, at a cost of 12,000*l.*

Free on market days.

Names.

THE TOWN OF HALIFAX—*cont.*

HALIFAX PERMANENT BENEFIT BUILDING SOCIETY.

For aiding working men in acquiring house property and investing their savings with profit and safety.

The transactions of the society have been fully set out in the answers given to the questions as a separate establishment.

	£	s.	d.
5,687 members have invested in 13 years.	174,274	14	0
2,987 depositors have lent to the society	211,567	15	7
	385,842	9	7
885 borrowers have received on loan -	320,411	12	0
The present number of investers are—			
1,850, who have with the society -	69,717	14	11
1,219 depositors - -	73,633	13	6
3,069	143,351	8	5
532 borrowers on mortgage loan -	156,328	12	5
3,601			

SUMMARY of the above-mentioned INSTITUTIONS.

—	Capital or Investments.	Annual Income.	Annual Expenditure.	No. of Persons benefited.
	£	£	£	
Municipal Institutions.	584,704	47,009	39,965	65,000
Charitable Institutions.	105,700	6,650	- -	5,592
Sunday and Day Schools.	27,225	3,090	3,090	9,730
Relief and Friendly Societies (in part only).	7,836	- -	680	235
Industrial and Co-operative Institutions.	1,124,286	238,760	- -	1,631
Literary Institutions.	18,000	1,262	- -	1,817
Statistical & Commercial Institutions.	12,000	Open on Market days free.		105
Halifax Permanent Benefit Building Society—				
Investers .	143,351	- -	- -	3,069
Borrowers .	156,328	- -	- -	532

N.B.—This locality claims the advantages exhibited in the returns of James Akroyd & Son and John Crossley & Sons, Limited.

I, Thomas Shaw, Esq., Mayor of the Borough of Halifax, do hereby certify to the correctness of the above information as specially applicable to this locality.

THOS. SHAW. (L.S.)
Mayor of Halifax.

The Corporate Common Seal of the Borough of Halifax, and the signature of Thomas Shaw, Esquire, the Mayor, was hereunto affixed this twenty-fifth day of January 1867.

J. E. NORRIS,
Town Clerk.

Names.

THE TOWN OF HALIFAX—*cont.*

1. Rules of the Halifax Flour Society.
2. Halifax Tradesmen's Benevolent Institution.
3. Rules of the Halifax Industrial Society.
4. Rules of the Loyal Georgean Society, Halifax.
5. A handy-book of institutions in Haley Hill and Copley.
6. Prospectus of Crossley & Sons' carpet manufactories.
7. Memorandum of Association of John Crossley & Sons.
8. Crossley Orphanage and House, Halifax.
9. Ninth annual report of the Ragged School, Halifax.
10. Rules of the Mechanics' Institute and Mutual Improvement Society, Halifax.
11. Fourth annual report of Chamber of Commerce, Halifax.
12. Halifax Industrial Society.
13. Annual Report of Halifax Tradesmen's Benevolent Institution.
14. Joseph Crossley's Almshouses, Halifax.
15. Frank Crossley's Almshouses, Halifax.
16. Annual report of Halifax Infirmary and Dispensary.
17. Rules and Regulations of Ditto.
18. Rules of the Philanthropic Society.
19. Articles of Association of the Halifax Cotton Manufacturing Company, Limited.

THE TOWN OF IPSWICH.

DEAR SIR, Ipswich, January 25, 1867.

I HAVE the honour to transmit to you herewith a claim under the conditions which provide for the competition of localities for the award under the new Order of Merit, offered at the Paris Exhibition of 1867.

This claim is made on behalf of the town of Ipswich, and the documents relate to the various charitable and other public institutions of the town.

Having transmitted these documents I have not thought it necessary to make the collection of reports, &c., asked for in your letter of the 16th January, all such documents as I have collected being sent herewith; but, if necessary, I could collect a duplicate set.

I have the honour to be,
Yours faithfully,
ROBERT CHARLES RANSOME,
Mayor of the Borough of Ipswich.

Henry Cole, Esq., C.B.,
Commissioner to the Paris Exhibition, 1867,
South Kensington,
London.

ACCOUNT of the INSTITUTIONS of the DISTRICT of ST. JOHN'S, CALIFORNIA, IPSWICH, ENGLAND, for the IMPROVEMENT and ADVANTAGE of the WORKING CLASSES.

INTRODUCTORY REMARKS.

BEFORE proceeding to give an account of the institutions established in this district for the improvement and advantage of the working classes, and in order to estimate justly their adaptability to the wants of the inhabitants, it seems advisable to state shortly what is the nature of the district, and of what descriptions of persons its population consists. For this purpose a short history of the locality is necessary.

In 1850 there existed near Ipswich a considerable farm called the Cauldwell Hall Farm, the soil of which consisted of sand, with occasional veins with brick-earth and full of stone, and was consequently particularly unproductive. At the same time there was in existence in Ipswich a freehold land society, the object of which was to obtain land, and to divide it into small allotments for purchase by industrious poor, such allotments to be paid for by fortnightly instalments, extending, at the option of the allottee, over various periods of years. This society then purchased 100 acres or thereabouts, and subsequently 20 acres more, of the Cauldwell Hall Farm, and allotted them out according

Names.

THE TOWN OF IPSWICH—*cont.*

to their scheme. Of the allottees some built on their allotment-houses for their own occupation, others also built and let their houses, while others again cultivated their land. Subsequently, as might have been expected, much of this property changed hands, so that now the population of the land so allotted and a certain portion of neighbouring land, the whole constituting the district of St. John's, California, consists of about 20 persons renting or owning and occupying houses of a rental of upwards of 10*l.*, with their families and servants, about 1,800 persons living in houses, four-roomed or five-roomed, let at rentals varying from 7*l.* to 10*l.*, and about 100 persons living in houses of a less yearly rental. Of these inhabitants about 320 are freeholders or their families, and the remainder are, in the great majority of cases, weekly tenants; the bulk of them are either skilled artizans, chiefly employed by the firm of Ransomes and Sims, bricklayers, labourers of various descriptions, or gardeners. They are, therefore, persons working for their daily bread, but, though in but few cases with much money laid by, yet seldom requiring pecuniary relief, and generally able to give their children a fair education, and to bring them up decently.

The district being, therefore, neither very rich nor very poor, its institutions should be, and the endeavour has been to make them such as may be carried on at a small cost, and which shall rather aid the poor to help themselves, than be purely eleemosynary. They may be divided into three classes, viz., spiritual, intellectual, and physical. First, then, as to the—

SPIRITUAL INSTITUTIONS OF THE DISTRICT.

These consist of—

I. *The Church of England Church*, the minister of which is paid in part by a grant from the Church Pastoral Aid Society, and in other part by the seat rents. The seats in the church are partly free and partly let for small quarterly payments. Its choir is a voluntary one. Divine service is celebrated twice on Sundays, and also on certain feasts and festivals.

II. *The Methodist Chapel*, in which service is held twice on Sundays.

III. *The Week-day Service* in the National School on Thursday evenings.

IV. *The Sunday School in connexion with the Church of England*, for imparting religious instruction to children, which is held twice every Sunday, and the superintendent and teachers of which give their services gratuitously.

V. *The Sunday School in connexion with the Chapel*, also held twice every Sunday, and the superintendent and teachers of which also give their services gratuitously.

VI. *The Bible-class for Men and Boys*, in connexion with the Church of England, held every Sunday afternoon, the object of which is to continue the religious instruction commenced in the Sunday school.

VII. *The Bible-class for Women and Girls*, held at the same time as, and with a similar object to the last.

VIII. *The District Visitors*, among whom the district is parcelled out, each taking the care of 35 houses or thereabouts. The duties of these visitors is to attend to the religious wants of the districts committed to their charge by the loan to the inhabitants of religious publications, and to bring before the notice of the clergyman such cases as seem to them to require his special attention. A certain amount of money is also given to them for the purpose of alleviating urgent distress. They meet once a month at the clergyman's house to report to him the state of their respective districts.

Secondly as to the—

INTELLECTUAL INSTITUTIONS OF THE DISTRICT.

These consist of—

I. *The Working Men's Institute*, the object of which is to afford working men the opportunity of spending their evenings in

Names.

THE TOWN OF IPSWICH—*cont.*

rational improvement or harmless recreation. It is open from 7.30 to 10 on Mondays, Wednesdays, and Saturdays during the winter months.* Papers and periodicals are provided for its members, and the lending library is free for their use in the institute, while the requisites for the games of chess and draughts are furnished. The subscription is 2*s.* 6*d.* for the term, or 6*d.* a month. It is managed by a committee, elected by the members annually, and electing its own officers, who are a chairman, a secretary, and an auditor. It has only recently been started, and is already nearly self-supporting.

II. *The Lending Library*, which consists of between 500 and 600 volumes, and is for the use of all classes. Members of the Working Men's Institute, of the National, Night, and Church of England Sunday schools, of the Bible classes, and of the Mothers' meeting are allowed to take books from it home to read at a payment of 1*d.* a month, and other inhabitants at a payment of 2*d.* a month. It is open every Monday afternoon, from 4 to 4.30, and every Wednesday evening, from 7 to 7.30. for change of books. It is nearly self-supporting.

III. *The National School.* This is open to all children on payment of 2*d.* a week a head, from 9 to 12 in the morning, and 2 to 4 in the afternoon every day except Saturday and Sunday. The children are taught by a certificated schoolmistress, and the school is under the inspection of Government and of the Diocesan Society, and under the management of a mixed clerical and lay committee.

IV. *The Night School for Men and Boys*, open every Tuesday and Friday evening, during the winter months, from 7 to 8.30. The subjects taught are reading, writing, and arithmetic. The payment is 1*d.* a night, or 6*d.* a month.

V. *The Night School for Women and Girls*, similar in character to the last, open every Wednesday evening and every alternate Friday evening, from 7 to 9. The payment is 1*d.* a night, or 4*d.* a month.

These night schools are taught by voluntary teachers, and are not only entirely self-supporting, but also aid to support and enlarge the lending library.

VI. *Concerts and Readings.*—Five or six of these are held during the winter months for the recreation of the inhabitants of the district. The prices of admission are 6*d.*, 3*d.*, and 1*d.* The performers all give their services gratuitously, and the profits arising from the performances aid in the support of the charities of the district.

Thirdly, as to the—

PHYSICAL INSTITUTIONS OF THE DISTRICT.

These consist of—

I. *The Penny Savings Bank.*—This is a branch of a penny savings bank, established in and for the benefit of the town of Ipswich, for the purpose of enabling the working classes to save up their pence. Sums are received of 1*d.* and upwards, and interest at the rate of 7*d.* in the pound per annum is given on all sums of 5*s.* and upwards. It is open every Wednesday evening from 7 to 7.30. It is managed by a committee, one of whom attends to receive deposits. All the members of the committee act gratuitously, and the bank is not only self-supporting, but aids in the support of other charities in the district.

II. *The Clothing Club.*—This is for the advantage of the children of the National school, who are allowed to deposit their pence throughout the year, at the end of which they receive clothes to the value of the money so deposited by them, together with the amount of subscriptions collected in aid thereof.

III. *The Mothers' Meeting.*—This is an institution for enabling women of the working classes to obtain materials for and make clothes at a less cost and in an easier manner than they otherwise

* The majority of the inhabitants having gardens which they cultivate, it would be useless to have the Working Men's Institute open in summer.

Names.

THE TOWN OF IPSWICH—*cont.*

could. For this purpose certain ladies who have the management of the meeting and as many women of the working classes as wish meet together every Thursday afternoon from 3 to 5 o'clock. At these meetings women purchase such materials as they require and spend the time in making them up into clothes. For these materials they pay by instalments, and the clothes are not taken away till the materials are paid for. Needles and thread are given to the women.

IV. *The Lying-in Charity.*—This consists of a bag which contains all that is required by, and is lent to women at the time of their confinement.

V. *The Coal Club.*—With respect to this charity, the district of California and the mother parish of St. Margaret are united. Its object is to enable the poor to ensure for themselves a supply of coals during the winter. With this view they are allowed to deposit during the year a certain amount of money, and to such deposits a further amount, collected by voluntary subscriptions, is added. The whole is then spent in coals, which are distributed among the depositors.

Such are the various institutions of the district established for single and independent objects. There is one other institution which remains to be noticed, the object of which is to ensure the efficient working and permanence of these various institutions. This is a permanent committee, which meets once a quarter, and oftener, if summoned by the secretary, and which is called "*The California Improvement Committee.*" Its object is the general improvement of the district. With this view it receives reports from the various institutions, and gives such advice with regard to them as it considers expedient, though it has no power to control the action of their governing bodies. It also starts institutions not already set on foot which appear to it to be for the advantage of the district, and if it considers such a course advisable, appoints sub-committees for the purpose of carrying them into execution; and generally it watches over the well-being of the district in every way.

Such are the institutions of the district. In one respect, at any rate, they carry out the ideas expressed at the commencement of this account, inasmuch as they are worked at a cost (in voluntary subscriptions) of less than 60*l.* a year.

A. F. VULLIAMY,
Chairman of the Working Men's Institute, Secretary and Treasurer of the National School and Penny Savings Bank, and Superintendent of the Church of England Sunday and Night Schools.

J. ALLEN RANSOME,
Alderman of Town Council of Ipswich.

INDEX OF REPORTS.

A. MENTAL IMPROVEMENT AND RECREATION.

2. Mechanics Institution.
3. Working Men's College.
4. Orwell Works Mental Improvement Society.
5. Great Eastern Railway Workmen's Institute.
6. Young Men's Christian Association.
7. Church of England Young Men's Society.
8. Museum.
9. Copy of the Church and its ministrations in St. Matthew's, Ipswich.

B. EDUCATIONAL.[1]

10. Ragged schools.
11. Schools under control of Government.
12. Voluntary schools.
13. Sunday schools.
14. Girls Free School of Industry.
15. Endowed schools.

C. Benevolent and Charitable Institutions.

16. Hospital.
17. Friendly society.
18. Girls Industrial Home.
19. Lying-in Charity.
20. Penny Club.
21. Friends Bible and Dorcas Society.
22. District Nursing Society.
23. Army Scripture Readers Society.
24. Society for the Encouragement of Industry.
25. Female Servants Training Institution.
26. Temperance Society.
27. Parochial benevolent and charitable organizations.
28. Charitable Endowments.

D. Provident Institutions.

29. Savings Banks.
30. Building Societies.
31. Freehold Land Society.
32. Mutual Benefit Societies.
33. Odd Fellows and Foresters.
34. Three books of reference for detailed information as to Ipswich institutions.
35. Report of the Ipswich Shipwrecked Seamen's Society.

22.

VI.—MISCELLANEOUS INSTITUTIONS.

Names.	**1. Name of the establishment.** *a.* **Where situated.** *b.* **Full postal address.**
Abbotts Ann Provident Benefit Club.	Abbotts Ann. Provident Benefit Club. *a.* Abbotts Ann. *b.* Near Andover, Hants.
Aberdeen Female School of Industry.	The Aberdeen Female School of Industry (or Ragged School), 61, Guestrow, Aberdeen, Scotland.
Ballinasloe District Agricultural Society.	Ballinasloe District Agricultural Society. *a.* Counties of Galway and Roscommon, Ireland, with Ballinasloe for its centre. *b.* Ballinasloe, Ireland.
Bianconi, C. (Ireland) -	Bianconi's. *a.* In various counties in Ireland. *b.* Longfield, Cashel, co. Tipperary.
Board of Arbitration and Conciliation for the Hosiery and Glove Trade.	The Board of Arbitration and Conciliation for the Hosiery and Glove trade. *a.* Nottingham. *b.* A. J. Mundella, President, Board of Arbitration, Nottingham.
Cripples' Home, Female Refuge, Public Laundry.	Cripples' Home, Female Refuge, Public Laundry. *a.* 17*a.* Marylebone Road. *b.* London.
East London Refuge and certified Industrial School.	East London Refuge and certified Industrial School. *b.* 4 Mansell, Street, Whitechapel, London, E.
Grantham Union Self-aiding Medical Club.	The Grantham Union Self-aiding Medical Club. *a.* Grantham, Lincolnshire.
Jackson, E. (Hull) - -	"National Musical Contests." *a.* Throughout England, Wales, and Scotland.
Keevil District Horticultural Society.	"Keevil District Horticultural Society." *a.* Keevil and surrounding neighbourhood (embracing an area of 16 miles in diameter). *b.* Keevil, near Trowbridge, Wiltshire.
Birkbeck Literary and Scientific Institution.	London Birkbeck Literary and Scientific Institution, 29, Southampton Buildings, Chancery Lane, London, W.C.
Loyal Bud of Hope Lodge Friendly Society.	Loyal Bud of Hope Lodge Friendly Society. *b.* High Wycombe, Buckinghamshire.
Loyal Orwell Lodge - -	Loyal Orwell Lodge, Wellington Inn, Carr Street, Ipswich.
Philanthropic Society's Farm School.	Philanthropic Society's Farm School. *a.* Redhill, Surrey.
Ragged School Shoeblack Societies of London.	The Ragged School Shoeblack Societies of London. *a.* The City and Metropolitan districts. *b.* See the annexed table.
Royal Cornwall Polytechnic Society.	The Royal Cornwall Polytechnic Society, Falmouth, Cornwall.
Royal Society for Protection of Life from Fire.	Royal Society for the Protection of Life from Fire. *a.* London. *b.* Office, 59 Ludgate Hill, London.
Sandwell Training Home -	Sandwell Training Home. *a.* Five miles from Birmingham, two from West Bromwich. *b.* Sandwell Hall, Birmingham.
Slough Mechanics' Institution.	Mechanics' Literary and Scientific Institution. *b.* Slough, Bucks.

Names.	
Sons of the Clergy or Charity for the Relief of the Poor Widows and Children of the Clergy.	The Charity for the Relief of poor Widows and Children of Clergymen, commonly called the Corporation of the Sons of the Clergy. *a.* 2 Bloomsbury Place, London, W.C.
Tyne Docks Institutions -	Tyne Docks Institutions. *b.* Tyne Docks near South Shields.
Ulster Society for Educating the Deaf, Dumb, and Blind.	The Ulster Society for Promoting the Education of the Deaf and Dumb and the Blind. Belfast, Ireland.
Working Women's College	The Working Women's College, Queen Street, Bloomsbury, London, W.C.

2. Name of the proprietor or body of proprietors.

Abbotts Ann Prov. Club -	The Institution consists of 776 contributors or members; being 217 men, 265 women, and 294 children.
Aberdeen Fem. Sch. of Ind.	Patrick Davidson, Esq., of Inchmarlo; Francis James Cochran, Esq., of Balfour; and Robert Spottiswood Farquhar Spottiswood, of Muiresk, proprietors of the buildings as trustees.
Bianconi, C. (Ireland) -	Charles Bianconi.
Cripples' Home - - -	Under a committee of ladies and visiting gentlemen.
East London Refuge, &c. -	Samuel Wise, manager, and a committee of 12 gentlemen.
Grantham Medical Club -	The guardians of the parishes comprising the Union are stewards, and the following a committee of management: the Duke of Rutland, T. C. Beasley, Esq., George Sills, Esq. Charles Miller.
Jackson, E. (Hull) - -	Enderby Jackson, musical director and composer, No. 31, Carr Lane, Hull, England.
Keevil Dist. Society - -	"General Committee" consisting of subscribing members.
Birkbeck Inst. - - -	The members of the institution.
Loyal Bud Friendly Soc. -	Members, 311.
Philanthropic Society -	The Philanthropic Society: Incorporated 1806.
Ragged School Shoebl. Soc.	Names are printed in Reports.
R. Cornwall Polytech. Soc.	Trustees.
R. Soc. for Protec. Life fr. Fire	Patron, the Queen; President, the Lord Mayor; Treasurer, Robert Culling Hanbury, M.P. for Middlesex, and a committee of 20 gentlemen, acting gratuitously.
Sandwell Training Home -	Sole owner of the house and estate, the Earl of Dartmouth, who has given the house (during his lifetime) for the purpose of forming the home, in which several objects are combined.
Slough Mechanics' Inst. -	Robert Bateson Harvey, Esq., M.P., President, with an Honorary Secretary and Treasurer.
Sons of the Clergy - -	The names of the managing Governors are given in answer 50.
Tyne Docks Inst. - -	The docks belong to the North Eastern Railway Company. The institutions to the workmen.

Names.	**3. Name in full, description and address of the correspondent or secretary of the institution.**
Abbotts Ann Prov. Club -	James Dear, schoolmaster, Abbotts Ann, near Andover, Hants.
Aberdeen Fem. Sch. of Ind.	Robert Spottiswood Farquhar Spottiswood, of Muiresk, 20, Rubislaw Terrace, Aberdeen, honorary secretary and treasurer.
Ballinasloe Dist. Agric. Soc.	Henry Ireland Gascoyne, Esq., Mackney, Ballinasloe, Ireland, acting secretary.
Bianconi, C. (Ireland) -	Charles Bianconi, Longfield, Cashel.
Board of Arbitration, &c. -	J. Lamb, Secretary, Board of Arbitration, Nottingham.
Cripples' Home - - -	Miss C. Blunt, Hon. Secretary, 12, Upper Gloucester Street, N.W.
East London Refuge, &c. -	Samuel Wise, secretary and manager, 4, Mansell Street, Whitechapel, London, E.
Grantham Medcial Club -	Charles Miller, Alderman of the Borough of Grantham.
Jackson, E. (Hull) - -	Enderby Jackson, musical director and composer, No. 31, Carr Lane, Hull, England.
Keevil Dist. Society - -	John Isaac Watts, Pinckney Farm, Keevil, near Trowbridge, Wiltshire, England.
Birkbeck Inst. - - -	Mr. George Michael Norris, 29, Southampton Buildings, Chancery Lane, W.C.
Loyal Bud Friendly Soc. -	Frederick Manning, draper, High Wycombe, Bucks.
Loyal Orwell Lodge - -	William Cuthbert, 3, Bridge Street, Ipswich.
Philanthropic Society -	Rev. Charles Walters, resident chaplain (clerk in holy orders); John Trevarthen, secretary; both at Farm School, Redhill.
Ragged School Shoebl. Soc.	Martin Ware, jun., Barrister, 25, Old Square, Lincoln's Inn.
R. Cornwall Polytech. Soc.	Clement Le Neve Foster, B.A., Polytechnic Hall, Falmouth.
R. Soc. for Protec. Life fr. Fire	Sampson Low, junior, secretary and general superintendent.
Sandwell Training Home -	Letitia Frances Selwyn, Lady Superintendent, the funds not admitting of a regularly paid secretary.
Slough Mechanics' Inst. -	Mr. William Ward, Schoolmaster, Alpha Road, Slough.
Sons of the Clergy - -	Charles John Baker, Esq., Barrister, Registrar of the Corporation, 2 Bloomsbury Place, London, W.C.
Tyne Docks Inst. - -	Robert Thubron, manager, Tyne Docks, South Shields.
Ulster Deaf, Dumb, &c. Soc.	James Shaw, Esq., Charles Lanyon, Esq., J.P., M.P., Hon. Secretaries, Belfast, Ireland.
Working Women's College	Mrs. Frank Malleson, Camp Cottage, Wimbledon.

Names.	**4. Principal object of the establishment.**
Abbotts Ann Prov. Club -	Provision against sickness or old age, and the advancement or settlement of the member in life. (See Rule 2.)
Aberdeen Fem. Sch. of Ind.	To educate, mentally, industrially, and morally train the children of the destitute and dangerous classes.
Ballinasloe Dist. Agric. Soc.	To improve the condition of the peasantry of the district, and to develop the resources of the soil.
Bianconi, C. (Ireland) -	To facilitate travelling, thereby promoting intercourse.

Names.	
Board of Arbitration, &c. -	The prevention of strikes and lock-outs, and the settlement of all misunderstandings relating to wages.
Cripples' Home - - -	To train crippled girls and young women to be straw bonnet makers, thereby enabling them to support themselves. The refuge girls are trained for domestic service.
East London Refuge, &c. -	Employment of homeless and destitute children found about the streets of London.
Grantham Medical Club -	To afford medical aid to labourers in agriculture and trade, servants and journeymen, both male and female, strictly belonging to the working classes.
Jackson, E. (Hull) - -	The material, moral, and intellectual well-being of the workman.
Keevil Dist. Society - -	For the moral, intellectual, and physical improvement of the workman, by encouraging by means of competitive effort, habits of industry, sobriety, and cleanliness.
Birkbeck Inst. - - -	To disseminate instruction among mechanics, &c.
Loyal Bud Friendly Soc. -	To secure an allowance in sickness and a sum of money at death of the man or his wife.
Loyal Orwell Lodge - -	To render assistance to members when sick and not able to follow their usual employment, supplying medical attendance and medicine to the members when sick, and defraying the expenses of the burial of deceased members and deceased wives of members.
Penny Readings, Ipswich -	To benefit the poorer classes by providing cheap and instructive entertainments.
Philanthropic Society -	Reformation of juvenile offenders. As stated in the Act; "for the maintenance, education, and employ- " ment of poor children, the offspring of convicted " felons, and of children who have themselves been " engaged in criminal practices."
Ragged School Shoebl. Soc.	To provide temporary remunerative employment for boys connected with ragged schools, while they are under education, and to assist them in obtaining permanent situations.
R. Cornwall Polytech. Soc.	The society consists of a number of annual subscribers. The object of the society is to stimulate the ingenuity of the young, to promote industrious habits among the working classes, and to elicit the inventive powers of the community at large. In other words, the society endeavours to promote education, art, science, commerce, and manufactures. This end is attained— 1. By holding *annual exhibitions* of scientific and mechanical inventions and improvements, productions in the fine and useful arts, school productions, such as maps, drawings, specimens of penmanship, natural history collections, lists of the local fauna and flora. These exhibitions are stimulated by awards of prizes in cash and medals from the society, as well as by special premiums offered by private persons for special objects. These exhibitions last a week, and are numerously attended. 2. By *lectures* during the exhibition and at other times. 3. By the *circulation* of the *printed annual reports*, which contain the general proceedings of the society, papers on literary and scientific subjects, statistics, and on the sanitary condition of the miner.

Names.	4. By the successful encouragement of young artists, who have subsequently distinguished themselves in the national exhibitions.
R. Soc. for Protec. Life fr. Fire	The rescue of endangered persons from houses on fire, and rewarding those who rescue life from fire by their own personal exertions.
Sandwell Training Home -	Training young persons of two classes; 1. As teachers or governesses. 2. As domestic servants, farm labourers, and occasionally carpenters.
Slough Mechanics' Inst. -	For the education and social improvement of the working classes especially.
Sons of the Clergy - -	The pecuniary relief of poor and deserving clergymen of the Established Church of England and Wales, their widows and aged unmarried daughters, and to educate, apprentice, and provide outfits for the orphan and other children (both boys and girls) of poor clergymen.
Tyne Docks Inst. - -	Material, moral, and intellectual well being of the workmen, their families, and the inhabitants of the locality.
Ulster Deaf, Dumb, &c. Soc.	The object of the Institution is to afford a religious, moral, literary, and industrial education to deaf and dumb and blind children belonging to the Province of Ulster. The Institution is now open to the free admission of all indigent children, being deaf and dumb or blind, who are eligible candidates.
Working Women's College	The education of working women.

	5. By whom was it formed?
Abbotts Ann Prov. Club -	The rector of the parish.
Aberdeen Fem. Sch. of Ind.	By a few benevolent parties, among whom may be mentioned Mr. Watson, late sheriff substitute of the county of Aberdeen.
Ballinasloe Dist. Agric. Soc.	By the guardians of the poor of the Ballinasloe Poor Law Union.
Bianconi, C. (Ireland) -	Charles Bianconi.
Cripples' Home - - -	By the existing committee of ladies.
East London Refuge, &c. -	Samuel Wise, the present manager and secretary.
Grantham Medical Club -	In a great measure by the late John Henry Duke of Rutland.
Jackson, E. (Hull) - -	By Enderby Jackson.
Keevil Dist. Society - -	John Isaac Watts and others.
Birkbeck Inst. - - -	George Birkbeck, Esq., M.D., Lord Brougham, and others, at a public meeting.
Loyal Bud Friendly Soc. -	By 41 working men.
Loyal Orwell Lodge - -	By a few energetic and provident workmen and tradesmen in Ipswich.
Philanthropic Society -	"Noblemen and gentlemen."
Ragged School Shoebl. Soc.	The founders of the first society were Messrs. John McGregor, R. J. Snape, J. R. Fowler, and F. S. Reilly.
R. Cornwall Polytech. Soc.	The formation of the society was suggested by Miss Anna Maria Fox.
R. Soc. for Protec. Life fr. Fire	Suggested in the first instance by the late Abraham Wivell, as the inventor of a very excellent fire escape, and re-established by the exertions of the present committee.
Sandwell Training Home -	By the Countess of Dartmouth.

Names.	
Slough Mechanics' Inst.	By gentlemen and tradesmen of the neighbourhood.
Sons of the Clergy	Originally by sons of clergymen associating together to raise funds by an annual festival in St. Paul's Cathedral.
Tyne Docks Inst.	Workmen employed in connexion with the docks.
Ulster Deaf, Dumb, &c. Soc.	By clergymen and benevolent laymen in Belfast.
Working Women's College	By a party of ladies and gentlemen, including some members of the Council of the Working Men's College.

6. When was it established?

Abbotts Ann Prov. Club	In 1831.
Aberdeen Fem. Sch. of Ind.	In 1842.
Ballinasloe Dist. Agric. Soc.	August 1840.
Bianconi, C. (Ireland)	In the year 1815.
Board of Arbitration, &c.	December 1860.
Cripples' Home	About 15 years ago.
East London Refuge, &c.	1854.
Grantham Medical Club	In 1840.
Jackson, E. (Hull)	In the year 1855.
Keevil Dist. Society	October 26, 1859.
Birkbeck Inst.	December 2, 1823.
Loyal Bud Friendly Soc.	28 January 1845.
Loyal Orwell Lodge	October 27, 1843.
Penny Readings, Ipswich	No answer.
Philanthropic Society	In 1788.
Ragged School Shoebl. Soc.	The first society was established on the 31st March 1851.
R. Cornwall Polytech. Soc.	It was established in the year 1833.
R. Soc. for Protec. Life fr. Fire	Originally in 1836, re-established in 1843.
Sandwell Training Home	In January 1857.
Slough Mechanics' Inst.	1840.
Sons of the Clergy	The first festival was in 1655. The association thus commenced was incorporated by charter from Charles the Second, 1678.
Tyne Docks Inst.	Mechanics institution, July 1859; temperance society, November 1859; penny savings bank, December 1859; British and foreign Bible society, 1864; building society, 1 February 1865; day and night schools, October 1866.
Ulster Deaf, Dumb, &c. Soc.	25th April 1831.
Working Women's College	In October 1864.

7. Have the works or the institution ever been suspended? if so, for how long, at what date, and from what cause?

Abbotts Ann Prov. Club	No.
Aberdeen Fem. Sch. of Ind.	Never.
Bianconi, C. (Ireland)	No.
Cripples' Home	Only the public laundry for two or three months for building purposes.
East London Refuge, &c.	Never been suspended. Began with six boys; about 4,000 have been benefited.
Grantham Medical Club	Never been suspended.
Jackson, E. (Hull)	No; it has been continually expanding and prospering from its first establishment.

Names.	
Keevil Dist. Society - -	Never suspended.
Birkbeck Inst. - - -	Never.
Loyal Bud Friendly Soc. -	Never have been suspended from its foundation.
Loyal Orwell Lodge - -	No.
Philanthropic Society -	No.
Ragged School Shoebl. Soc.	No.
R. Cornwall Polytech. Soc.	No.
R. Soc. for Protec. Life fr. Fire	It was in operation from 1836 to 1843, on a very limited scale. In 1843 it was re-established by its present managers; they commenced afresh with six fire escape stations, and have succeeded in establishing from two to six fresh stations every year; they have now in all 85 stations.
Sandwell Training Home -	Never, except for a few weeks on account of illness and the requisite cleansing of the apartments in 1858 when an infectious disease appeared among some of the young girls.
Slough Mechanics' Inst. -	Never.
Sons of the Clergy - -	No; the festival has been held annually without intermission in St. Paul's for 213 years, except during the few years the Cathedral was destroyed by fire, and in the course of rebuilding, when the festival was celebrated at Bow Church, Cheapside.
Tyne Docks Inst. - -	No.
Ulster Deaf, Dumb, &c. Soc.	Never, except during vacation.
Working Women's College	No.

8. State the number of persons at present employed, or received into the institution.

a. **Adult males or females.**
b. **Young persons.**
c. **Children.**
d. **And the average number in each during 10 years.**

Aberdeen Fem. Sch. of Ind.	*a.* Young persons within the ages of 7 and 15, 100. *c.* 90.
Board of Arbitration, &c. -	Its decisions regulate the wages of about 25,000 persons.
Cripples' Home - - -	Adult males, none; females, 100. Young persons within the ages of 12 and 30; males, none; females, 100.
East London Refuge, &c. -	Adult males, 6; females, 2. *a.* Within the ages of 15 and 17, males, 30. *b.* males, 56. *c.* 59.
Jackson, E. (Hull) - -	It is impossible to truly answer this question without incurring great expenses in collecting statistics, since in England alone it comprises thousands of workmen.
Keevil Dist. Society - -	Adult males, 368; females, 74. *b.* males 28; females 20. *c.* Average number since the society has been established, including adults and children, about 323.
Birkbeck Inst. - - -	Mostly all within the ages of 17 and 35; males and females, 1,006.
Loyal Bud Friendly Soc. -	Adult males, 311; no females. *a.* Young persons within the ages of 18 and 13, males, 311; females, none.
Loyal Orwell Lodge - -	Adult males, 428.

Names.	
Philanthropic Society	*b.* Young persons within the ages of 11 and 19 : Males, 270. *d.* The average number in each during ten years, 256.
Ragged School Shoebl. Soc.	Adult males, 7; females, 7, (superintendents and matrons). *a.* Within the ages of 12 and 18 ; males, 286. *c.* About 250.
R. Cornwall Polytech. Soc.	Adult males, 247 ; females, 65.
R. Soc. for Protec. Life fr. Fire	100, viz., 89 full members of the brigade, 6 supernumeraries, and 5 inspectors.
Sandwell Training Home -	*a.* Within the ages of 10 and 16; males, 13; females, 27 ; above 16, 12; total, 40 females under instruction. *b.* female, 1 under 10. *c.* 30 annually between 12 and 15 admitted, and about 10 sent out to service. 7 adult male upper servants or labourers, 6 female teachers, matrons, &c.
Sons of the Clergy - -	The number assisted in 1865, and annually thereabouts is, adult males, 215; females, 834 ; total, 1,049. *a.* Within the ages of 14 and 30, males and females, 248 ; total assisted by grants, 1,297.
Tyne Docks Inst. - -	Employed at the docks, 1,000. Received into the mechanics institution, adult males, 100.
Ulster Deaf, Dumb, &c. Soc.	There are 140 pupils on the institution roll. Of these 58 are deaf and dumb males, 54 deaf and dumb females; 19 blind males, and 9 blind females. The average number of pupils for the last 10 years has been 118.

9. Are there any restrictions or qualifications for admission or employment in labour: namely,—

a. **Age, and at what age?**

b. **Instruction?**

c. **Apprenticeship, or other period of service?**

Aberdeen Fem. Sch. of Ind.	Each girl must be seven years of age or upwards. *b.* Reading, writing, arithmetic, sewing, knitting, washing, and housework generally.
Bianconi, C. (Ireland) -	The only qualifications required are an ability to do the duty, courtesy to the public, of all classes, and strict adherence to truth, with sobriety.
Cripples' Home - - -	*a.* Not under 12 ; qualification—inability for self-support. *b.* Straw bonnet making. *c.* Three years.
East London Refuge, &c. -	*a.* 11. *b.* Elementary. *c.* Some cases are voluntary, others are sent by magistrates for various periods, from two to five years.
Jackson, E. (Hull) - -	None whatever. All workmen wishful to extend their general intelligence and musical knowledge and ability are free to enter.
Keevil Dist. Society -	Workmen of the annual rental of 6*l.* and under.
Birkbeck Inst. - - -	Payment of subscription.
Loyal Orwell Lodge - -	Respectable conduct and good health, as shown by the rules herewith enclosed. *See* Rule 20, Orwell Lodge byelaw.
Philanthropic Society -	Must have been convicted of crime, and under 16 years of age.
Ragged School Shoebl. Soc.	When admitted they are between the ages of 12 and 16. *b.* No. *c.* No.
R. Cornwall Polytech. Soc.	No.

Names.	
R. Soc. for Protec. Life fr. Fire	Physical health and strength, intelligence and general adaptation, and previous good conduct. *a.* From 20 to 28 years of age.
Sandwell Training Home -	Boys from 10 to 15, girls received at 14 to 16. *b.* A daily and evening school. *c.* Two years training necessary before the young person is allowed to leave the institution.
Sons of the Clergy - -	Clergymen, their widows, and single daughters are assisted at any age, but generally preference is given to the sick and more aged. Evidence of good character and want of means, or incapacity to earn a maintenance, is alone required. The grants for education are made for young persons (not under 14 years of age, the funds at present being too limited to assist younger children), at schools or colleges selected by the parents or guardians, and approved by the Governors of the Charity. As to apprenticeships, the parents or guardians provisionally arrange the terms, subject to approval by the Governors.
Tyne Docks Inst. - -	None at the docks.
Ulster Deaf Dumb, &c. Soc.	All pupils admitted to the Institution must be of sound mind and physically healthy. The age of admission ranges from 8 to 13. The course of instruction extends from 3 for the blind to 6 years for the deaf and dumb. On finishing their educational course the pupils are apprenticed to different trades, an apprentice fee being given when required by the committee. So far as possible a healthful supervision is exercised over those pupils after leaving school by clergymen and friends who take an interest in them, and the reports received in 1858 and 1865, from friends of nearly 170 educated pupils through the whole Province of Ulster, have been of a most gratifying character, reflecting most favourably on the benevolent work in which the Institution is engaged, and showing by the upright and Christian conduct of those educated deaf and dumb, and blind persons the unspeakable blessings which they derived whilst pupils of the Institution. The adult deaf and dumb of Belfast are regularly provided with Bible instruction on Sunday. See annual reports for 1858 and 1865, forwarded with this paper.

10. What is the proportion of married females employed?

Philanthropic Society -	Five schoolmasters' wives only married females employed.
Ragged School Shoebl. Soc.	None but the matrons, of whom there is one in each establishment.
Ulster Deaf, Dumb, &c. Soc.	There are none in the institution.

11. What regulations are made to enable them to attend to their family and domestic duties?

R. Soc. for Protec. Life fr. Fire	The members of the force only being on night duty, have their days to themselves, from 8 a.m. to 7 p.m., for rest and home duties. A copy of the rules is appended.
Ulster Deaf, Dumb, &c. Soc.	None.

Names.	**12. Are any arrangements made for the protection of young females whose employment necessitates their leaving home?**
Cripples' Home	By visiting and correspondence.
Birkbeck Inst.	See No. 10.
Sons of the Clergy	Their parents and the Governors of the Corporation take care to place them in proper hands.
Ulster Deaf, Dumb, &c. Soc.	The utmost care is taken when deaf and dumb females, after having finished their course of instruction, are sent out as apprentices, to see that they are placed under the guardianship of well-principled persons.

	13. Has the establishment been remunerative, or otherwise?
Aberdeen Fem. Sch. of Ind.	It is not. The sewing and knitting done is for behoof of the girls themselves.
Cripples' Home	Charitable.
East London Refuge, &c.	It is not self-supporting.
Grantham Medical Club	The Club pays its way.
Jackson, E. (Hull)	It has about realized the expenses incurred. The strictest economy has been observed. There has been no composition or bankruptcy on the part of the promoter; neither has he been able to save even a small competency thereby.
Keevil Dist. Society	Generally so, being well supported.
Birkbeck Inst.	For many years it was remunerative; the cause of its having ceased to be so was the competition with other institutions which it called into existence. It has during the past few years been gradually recovering its former position, and is now in a flourishing condition, and paying off old debts.
Loyal Bud Friendly Soc.	The club has been highly remunerative.
Loyal Orwell Lodge	Yes.
Philanthropic Society	Never self-supporting.
Ragged School Shoebl. Soc.	Three of the societies are self-supporting; some of the others are nearly so. The employment is in itself remunerative, but the superintendence and care of the boys consume the profits.
R. Cornwall Polytech. Soc.	All the funds, after payment of expenses, have been applied in prizes and awards in science, art, education, &c.; it has maintained a fair financial position for upwards of thirty years.
R. Soc. for Protec. Life fr. Fire	It is supported entirely by voluntary contributions, which have been sufficient to cover every year's expenses during the last 24 years.
Sandwell Training Home	So many children having been received, viz. 289 in industrial school and 124 in the upper school, and the payment not covering the expenses of their maintenance an annual deficiency of about 200*l.* has resulted.
Sons of the Clergy	The society has been uniformly prosperous, augmenting its means, and beneficiary disbursements from year to year.
Tyne Docks Inst.	Yes, financially successful.
Ulster Deaf, Dumb, &c. Soc.	It is not designed to be so. The blind pupils are taught trades in the house; the deaf and dumb girls needlework, &c., and some of the deaf and dumb boys printing, &c. Aid is given where it is required towards apprenticing pupils to trades when they leave the institution.

Names.	**14. Is any pecuniary assistance received from the Government, or from any other body not participating in the profits? If so, define its nature and amount.**
Aberdeen Fem. Sch. of Ind.	The institution is supported by voluntary subscriptions, out of which the buildings were paid, amounting to 700*l.*, and an additional sum of 850*l.* saved and invested for behoof of the establishment. A friend bequeathed to it a perpetual annuity of 20*l.*
Bianconi, C. (Ireland) -	None whatever.
Cripples' Home - - - -	An annual grant from the Reformatory Union varying from 50*l.* to 100*l.*; 13*l.* from Government for eight certified cases annually.
East London Refuge, &c. -	It is principally supported by voluntary contributions, but grants from Government are also received. Contributions, 692*l.* 14*s.* 3*d.*; Government, 189*l.* 1*s.* 6*d.*
Grantham Medical Club -	Each parish contributes its quota of the cost of maintenance according to the number of members.
Jackson, E. (Hull) - -	None whatever; the organization depends entirely for its support upon the general public.
Keevil Dist. Society - - -	No Government assistance. The only assistance which the society receives is by annual subscriptions and contributions received from the more influential inhabitants of the locality. The total amount thus received is about 300*l.*
Birkbeck Inst. - - - -	None from Government; donations and legacies are sometimes received, but very rarely.
Loyal Orwell Lodge - -	No.
Philanthropic Society -	The Government pay 6*s.* per week per boy, and the counties and boroughs (generally) 1*s.* 6*d.* per week for maintenance, &c., of boys.
Ragged School Shoebl. Soc.	The societies have no assistance from Government or any other public body; but receive contributions when they are in need of help from benevolent persons.
R. Cornwall Polytech. Soc.	The funds are derived from subscriptions of members, charges for admission to the annual exhibition, and a few other sources, such as fees for letting the hall, &c.
R. Soc. for Protec. Life fr. Fire	None.
Sandwell Training Home -	Only voluntary subscriptions, averaging between 250*l.* and 300*l.* annually. No assistance has been given by the Government.
Slough Mechanics' Inst. -	Awards to certificated master of the Science (Drawing) class upon the results of the Science examinations.
Sons of the Clergy - - -	None from the Government. Voluntary donations, subscriptions, and legacies are received from private individuals. The word "profits" is inapplicable.
Tyne Docks Inst. - - -	No.
Ulster Deaf, Dumb, &c. Soc.	No assistance is received from Government. The society depends solely on voluntary subscriptions, donations, and legacies received from the Province of Ulster.

	15. Has the establishment any special privilege or monopoly of any kind, and what is its nature?
Aberdeen Fem. Sch. of Ind.	No.
Bianconi, C. (Ireland) -	None.

Names.	
Jackson, E. (Hull) - -	The directors of all the principal railway companies assist the organization by grant of special privilege in running excursion trains to every meeting of the organization at special low excursion fares, charging 2*s.* 6*d.* where the lowest ordinary fare would be 10*s.* (ten shillings); and, in addition to this special privilege, they further concede to carry all competitors for half the excursion fare so charged, viz., 1*s.* 3*d.* instead of 10*s.* This proportion of special fare, and competitors' reduction thereon, being observed for longer or shorter distances than those of 10*s.* ordinary fares; and notwithstanding the low rate of fare, the immense influx of passengers on these occasions amply repay the railway companies.
Birkbeck Inst. - - -	No.
Loyal Orwell Lodge - -	No.
Philanthropic Society -	The Society has been incorporated by Act of Parliament (1806).
Ragged School Shoebl. Soc.	No, except that when the boys are stationed on ground which is private property (*e.g.*, the railway stations), they usually have the exclusive privilege there. Also, in the city they are more protected by the police than elsewhere. See Statement in Appendix.
R. Cornwall Polytech. Soc.	It has the patronage of Her Majesty the Queen, and H.R.H. the Prince of Wales, accompanied by a donation of 5*l.* per annum from each.
R. Soc. for Protec. Life fr. Fire	None.
Slough Mechanics' Inst. -	Nothing.
Sons of the Clergy - -	None.
Tyne Docks Inst. - -	No.
Ulster Deaf, Dumb, &c. Soc.	No special privilege or monopoly of any kind.

15a. Enclose a copy of all rules framed for the government of the establishment, or any information which may specially refer to it, and any plans of the buildings.

Aberdeen Fem. Sch. of Ind.	Rules for the government of the school are enclosed.
Cripples' Home - - -	Rules for the admission of girls into the Cripples' Home and Refuge, 17*a*, Marylebone Road, London. I. Answers to the following questions are to be sent to the Secretary, Miss C. Blunt, 12, Upper Gloucester Street, Dorset Square, before any girl can be admitted. II. The payment of 8*l.* per annum is required for three years for a refuge case, and for three years for a cripple. III. No girl can be admitted under the age of 12. IV. If living in London, the girl must be examined by one or more of the medical officers of the institution. V. If the cripple be a resident in the country, she must be examined according to the medical rules by some legally qualified practitioner in her locality, the report of such examination to be forwarded to the medical officers of the institution for their consideration and report to the ladies' committee.

Names.	
Cripples' Home—*cont.*	VI. The medical officers have the power to refuse to sanction the admission of any candidate who, having been passed by the ladies' committee, shall not in their judgment be considered as coming within the subjoined rules. In that case the girl will be sent back to her friends, at their expense; the medical officers to report the cause of such rejection to the ladies' committee. *Questions to be answered.* 1. The name of the girl. 2. The age of the girl. 3. Has she been baptised. 4. Has she been in any reformatory, refuge, or workhouse, and, if so, where and how long. 5. Is she a cripple. 6. The name and address of the parents. 7. Their occupation and earnings. 8. How many in family, and how many dependent upon the parents. 9. The name and address of the person who will be responsible for the annual payment required. 10. State the reason for the present application. N.B.—Any other information that can be given concerning the previous history and character of the girl or her parents is requested.
East London Refuge, &c. -	Report enclosed. See Appendix.
Jackson, E. (Hull) - -	Rules and particulars (six books) enclosed.
Birkbeck Inst. - - -	Copy sent marked A.
R. Cornwall Polytech. Soc.	For special information, see accompanying (32nd annual) Report, pp. 20 and 21, and Tables.
R. Soc. for Protec. Life fr. Fire	Appended.
Slough Mechanics' Inst. -	Copy of rules appended.
Sons of the Clergy - -	The annual printed report for 1865 is sent herewith; that for 1866 is being printed (January 1867).
Tyne Docks Inst. - -	Rules of bank and building society enclosed.
Ulster Deaf, Dumb, &c. Soc.	Rules enclosed, with plan and drawing of the institution.

16. Of how many partners does the establishment consist?

East London Refuge, &c. -	Of a committee of 12. See Report.
Jackson, E. (Hull) - -	None. It has been, and still is, carried out at the risk of its promoter, Mr. Enderby Jackson.
Ragged School Shoebl. Soc.	Each society is managed by a committee of about 10 or 12 in number, but they derive no pecuniary benefit.

17. Is their pecuniary responsibility limited?

East London Refuge, &c. -	No.
Jackson, E. (Hull) - -	It is regulated entirely by the manager's discretion.
Loyal Orwell Lodge - -	No, if the management fund fail to meet the requirements a levy must be made for that purpose.
Ragged School Shoebl. Soc.	No. But there is no liability except for rent and salaries.

Names.	
	19. During the last five years what has been the average yearly profit per cent., and in what proportion, and according to what principle has it been divided among— **(1.) The partners or shareholders.** **(2.) The workpeople.** **(3.) Any other persons.** **(4.) Devoted to capital or other purposes?**
East London Refuge, &c. -	Profit about 20 per cent. It is divided according to a fixed rule; the boys are paid for their labour, and place their savings into a savings' bank, which is devoted to their benefit when they leave the Refuge.
Loyal Bud Friendly Soc. -	We have no division of profits, the funds are left to accumulate as a reserve for the future.
Ragged School Shoebl. Soc.	There is no profit arising from capital. The earnings are divided as explained in the Preliminary statement.
	20. What are the daily number of hours of work at the establishment, exclusive of meal-times?
Cripples' Home - - - -	Seven hours.
East London Refuge, &c. -	Eight hours.
Philanthropic Society -	See page 14 of Annual Report.
Ragged School Shoebl. Soc.	From nine to 11 hours, according to the time of the year. The boys eat their dinners at their stations and take their other meals before and after work.
R. Soc. for Protec. Life fr. Fire	Night duty in front of their respective fire escapes; ready for sudden action, from 8 p.m. to 7 a.m., in winter, and from 9 p.m. to 6 a.m., in summer.
Tyne Docks Inst. - - -	Dock labourers hours, 6 a.m. to 6 p.m. in summer; breakfast ½ hour, dinner 1 hour; 7 a.m. to 5 p.m. in winter; dinner 1 hour.
	21. What are the average weekly wages now earned? ***a.* By a family.** ***b.* By a single workman.** ***c.* What are the highest weekly wages?** ***d.* What are the lowest?**
East London Refuge, &c. -	*c.* 8*s.* *d.* 2*s.*, by the boys.
Philanthropic Society -	*b.* Acting as farm labour master, 16*s.* *c.* Given to master tradesman, 33*s.* *d.* 16*s.*
Ragged School Shoebl. Soc.	*b.* About 7*s.*, of which 2*s.* is saved up in his "bank." (*See* statement in Appendix.) *c.* About 15*s.*, of which 6*s.* is put in his bank. *d.* About 5*s.*, of which 1*s.* is put in his bank.
R. Soc. for Protec. Life fr. Fire	20*s.* for first year's service, 21*s.* from second to fourth year, 22*s.* from fourth to sixth year, 24*s.* beyond six years, 25*s.* after 10 years and an increase in accumulation as bonus, on retiring.
Tyne Docks Inst. - -	1*l.* 2*s.* 6*d.* *c.* 30*s.* *d.* 18*s.* (Mechanics and engine drivers excepted.)

22. Have any, and what, systems been adopted (payment by the piece or other) to stimulate the industry of the workpeople?

Cripples' Home - - -	Rewards according to merit.
East London Refuge, &c. -	The boys are paid for all their labours, and prizes are awarded monthly.
Jackson, E. (Hull) - -	Prizes varying in value from 1*l.* (one pound) to 40*l.* (forty pounds) in the form of valuable instruction books, medals, batons, and musical instruments, are commonly given for individual excellence (totally independent of the grand prizes awarded for combined performances, which at competitions of this organization, vary from 250*l.* to 50*l.* according to locality), and the competitors are also carried to and from the competitions, entirely free of expense to themselves, at the cost of the promoter, irrespective of distance, and are thus enabled to visit cities and towns entirely unavailable to them by any other means.
Philanthropic Society -	Only in the harvest month. See Appendix on "Boys Rewards."
Ragged School Shoebl. Soc.	The workers receive a share of their earnings. Those who are most industrious have the best stations. There are prizes in money, and medals given every month to the most industrious.
R. Soc. for Protec. Life fr. Fire	Rewards are given according to the merit of each case of preservation of life, and where it is effected at personal risk the Society's silver medal is presented, and clasps added for successive instances of bravery with the same man.
Tyne Docks Inst. - -	The system of piece work is adopted in several instances for discharging and loading vessels.

23. Have dwellings, at the cost of the establishment, been provided for the workpeople?

a. **Of what character?**
b. **When erected?**
c. **How many?**
d. **At what cost?**

Cripples' Home - - - -	A good sized workroom, pressing room, several large and airy dormitories, lavatories, dining hall, laundry and washhouse, &c. Recently enlarged at the cost of 1,000*l.*
East London Refuge, &c. -	A large house on lease for 21 years; rent 65*l.* per annum.
Philanthropic Society -	Yes. *a.* Cottages. *b.* From 1849 to 1856. *c.* Five. *d.* About 180*l.* each. The schoolmasters live in apartments forming a part of the school-houses. The chaplain and secretary live in separate houses on the estate provided by the Society.
Ragged School Shoebl. Soc.	Most of the societies (see table annexed), have beds for a certain number of boys, altogether about 94.
R. Soc. for Protec. Life fr. Fire	None.
Sandwell Training Home -	Yes. *a.* Cottages. *b.* In 1862. *c.* Five. *d.* 500*l.* One is occupied by the carpenter employed in the institution, one by the coachman, and three by farm labourers.

Names.	
Tyne Docks Inst. - -	Yes. *a.* Good. *b.* 1860 and 1865. *c.* 120. *d.* 120*l.* each or thereabouts.
	24. What are the average weekly rents paid for such dwellings? *a.* **By a family?** *b.* **By a single workman?**
Cripples' Home - - -	Annual rent of the above 110*l.*
Philanthropic Society -	*a.* 2*s.* per week.
Ragged School Shoebl. Soc.	*b.* Generally 1*s.* a week.
Sandwell Training Home -	2*s.* 6*d.*, which is deducted from wages.
Tyne Docks Inst. - -	*a.* 2*s.* and 3*s.* according to size of cottage.
	25. Are any, and what, regulations made and enforced relative to periodical cleansing of the dwellings and workshops?
Cripples' Home - - -	Kept thoroughly clean by the inmates of the institution.
Philanthropic Society -	Are regularly inspected, and cleansed whenever required.
Ragged School Shoebl. Soc.	The societies' premises are in the charge of the superintendents, whose duty it is to keep them in a clean and wholesome condition.
Tyne Docks Inst. - -	None.
	26. Is there any co-operative society or arrangement amongst the workmen for the purchase of food or clothing, and how is the management provided and paid for?
East London Refuge, &c. -	Food is provided in the Refuge, and part of the boys' clothing.
Ragged School Shoebl. Soc.	There is in each society a coffee room, at which the boys are allowed, but not obliged, to get their food.
R. Soc. for Protec. Life fr. Fire	None.
Sandwell Training Home -	There is no co-operative society.
Tyne Docks Inst. - -	No.
	27. Do the employers contribute in any way?
Cripples' Home - - -	The funds of the institution provide food and clothing.
East London Refuge, &c. -	By subscribing to the funds.
Jackson, E. (Hull) - -	Yes, most liberally. Notably, in many instances, by building rooms for practice, retaining special music masters; finding also uniforms, instruments, music, gas, and other accessories necessary to stimulate the zeal of the workmen.
Ragged School Shoebl. Soc.	No.
R. Soc. for Protec. Life fr. Fire	None.
Tyne Docks Inst. - -	No.

Names.	
	28. Is the system of truck in any form adopted?
	***a.* Are any payments made, except in money, to persons employed?**
East London Refuge, &c. -	No.
Ragged School Shoebl. Soc.	No. *a.* No.
R. Soc. for Protec. Life fr. Fire	None.
Tyne Docks Inst. - -	No. *a.* No.
	30. State the proportion to the average the locality of—
	***a.* The Deaths of the workpeople employed.**
	***b.* Their Marriages.**
	***c.* Births—Legitimate.**
	***d.* „ Illegitimate.**
Ragged School Shoebl. Soc.	The occupation is found to be very healthy, very few deaths have occurred of boys while in the society.
R. Soc. for Protec. Life fr. Fire	*a.* About 1 per cent. per annum. *b.* 3 out of 5 married when they joined, 74 married now, the remainder are unmarried or widowers. *c.* 122 children. *d.* Not aware of any illegitimate.
	31. State the average duration of life of the workpeople—
	***a.* Adult Males**
	***b.* Adult Females.**
	***c.* Children.**
R. Soc. for Protec. Life fr. Fire	Cannot say, the majority are now young and the average age of the 100 is 32.
	36. Are any plans adopted for taking charge of the savings of the workpeople?
Cripples' Home - - -	The Post Office Savings' Bank
East London Refuge, &c. -	A savings' bank is established, the amount therein at the present time is 66*l.*
Ragged School Shoebl. Soc.	The system of savings' banks is explained in the Preliminary statement.
R. Soc. for Protec. Life fr. Fire	A provident fund is established to which every man in the force contributes 12*s.* (twelve shillings) per annum, and the Committee add thereto 28*s.* (twenty-eight shillings), and after ten years' service, 48*s.* (forty-eight shillings), available only to the men on leaving the force. Beyond this, the men are all continually advised to deposit their savings in the Government Post Office Savings Bank. Whenever an amount over 3*l.* is given to a man as a reward for special exertions in saving life, it is given with a Post Office Savings Bank book, or it is added to his previous account.
Tyne Docks Inst. - -	Yes. 1st, by a Penny Savings Bank; 2d, by a Building Society.
	37. How long have they been in operation?
Cripples' Home - - -	For several years.
East London Refuge, &c. -	12 years.
Ragged School Shoebl. Soc.	From the commencement of each society.

Names.	
Tyne Docks Inst. - -	Bank, since 23d December 1859. Building Society, since February 1865.

38. What is the number of the contributors, and the average amount of their savings?

Cripples' Home - - -	About 30.
East London Refuge, &c. -	About 80 contributors, averaging about 16*s.*
Ragged School Shoebl. Soc.	All contribute. Total amount in banks 425*l.* 15*s.* 4*d.* This is about the fair average. The average of each boy is about 1*l.* 10*s.*
R. Soc. for Protec. Life fr. Fire	All the men have this interest in the provident fund, and the amount depends on their years of service.
Tyne Docks Inst. - -	Bank, 192 depositors, average amount 1*l.* 11*s.* 1*d.* Building Society, 260 members, average amount 6*l.* 13*s.* 9*d.* first year.

39. Are there any instances of savings invested in life assurance, and to what extent?

Loyal Orwell Lodge - -	I know of several instances, and have no doubt there are numbers that I do not know of.
Philanthropic Society -	The schoolmasters are insured in life offices; and the workmen are all connected with benevolent clubs.
Ragged School Shoebl. Soc.	No.
Tyne Docks Inst. - -	25 workmen have their lives insured. 1 for 550*l.*; 1 for 150*l.*; 23 for 50*l.* each.

40. Have any, and how many, of the workpeople, by means of their savings, become possessed of houses?

Ballinasloe Dist. Agric. Soc.	No.
Birkbeck Inst. - - -	Some of the members of the institution here established the Birkbeck Building Society, Freehold Land Society, and Deposit Bank, which have for their objects the securing of the advantages mentioned above. These societies are carried on on the premises of the institution, and their present annual income amounts to upwards of half a million sterling. (Reports sent, marked D.)
Philanthropic Society -	Seven.
Ragged School Shoebl. Soc.	No.
Tyne Docks Inst. - -	Yes. Twelve workmen possess houses of their own, and several others are in treaty for dwellings through the aid of the Building Society.

41. Have they joined any Trades' Union, or formed any such union among themselves?

Ragged School Shoebl. Soc.	No.
Tyne Docks Inst. -	No, with the exception of the engine drivers, who have an association of the kind. Since the engine drivers' strike in April last the men have withdrawn from it.

Names.

42. Have such unions had any, and what influence upon their hours, or modes of labour, or their rate of wages?

JACKSON, E. (HULL) - -

Yes, upon their mode of labour and rate of wages; viz., by cultivating their intellectual standard it has raised in an eminent degree their intelligence; and it is clearly ascertained that the advanced members of the organization become raised to situations of overlookers, timekeepers, and foremen, in proportion as the organization pronounces their individual proficiency. Every year's labour gives numerous instances of such advancement.

47. Has the establishment given rise to any hostile combinations among the manufacturers or workpeople of the locality?

JACKSON, E. (HULL) - -

To none whatever; on the contrary the organization has been a fruitful source of friendly rivalry, both amongst the manufacturers and the workpeople; all vieing which could secure for the current year the most prominent place in the organization.

LOYAL ORWELL LODGE - -

No.

RAGGED SCHOOL SHOEBL. SOC.

No.

TYNE DOCKS INST. - -

No.

48. Has it had any, and what effect upon the poor's rate of the parish.

CRIPPLES' HOME - - -

The institution has to pay rates and taxes.

EAST LONDON REFUGE, &c. -

The effect upon the poor's rate has been but trifling.

LOYAL BUD FRIENDLY SOC. -

Our Society since its establishment, I should say, must have made a difference to the rates, though I cannot say how much; it has not only kept its members from applying to the parish, but has created a spirit of independence and self-dependence. In my experience there is a tendency, when a young man reaches the age of 18, to join the society, from the example set by his father or his friends, so as to provide for the future.

LOYAL ORWELL LODGE - -

I believe it is generally acknowledged that the town is largely benefited by our society, and that it is a very rare thing for one of the members to apply for parish relief.

RAGGED SCHOOL SHOEBL. SOC.

Probably not.

R. SOC. for PROTEC. LIFE fr. FIRE

None.

TYNE DOCKS INST. - -

No.

50. By whom is the establishment managed?

ABBOTTS ANN PROV. CLUB -

By the committee. (See Rule 24.)

ABERDEEN FEM. SCH. OF IND.

By the secretary and treasurer, assisted by a committee of ladies.

BALLINASLOE DIST. AGRIC. SOC.

President, Earl of Clancarty; Vice-Presidents, and a managing committee of subscribers.

BOARD OF ARBITRATION, &c. -

Manufacturers.—A. J. Mundella, President, T. Hill (Messrs J. & R. Morley), R. W. Smith, T. Ashwell, J. H. Lee, T. Black, H. F. Cox.

Workmen.—J. Saxton, Vice-president, H. Farrands, T. Wilson, W. Foster, J. Straw, G. Kendall, Jno. Lamb, Secretary.

Names.	
Cripples' Home - - -	By a ladies' committee.
East London Refuge, &c. -	E. Wise, manager, Mary Wise, matron.
Keevil Dist. Society - -	A general committee, honorary treasurer, and honorary secretary.
Birkbeck Inst. - - -	A committee elected by the members from their own body, and officers appointed by them.
Loyal Orwell Lodge - -	Members, in strict compliance under a board of management, consisting of trustees, auditors, secretaries, treasurer, chairman, and other inferior officers appointed quarterly, and investment committee elected annually.
Penny Readings, Ipswich -	By gentlemen who give their services gratuitously.
Philanthropic Society -	President, vice-presidents, and committee.
R. Cornwall Polytech. Soc.	By a president, vice-presidents, four honorary secretaries, and one secretary, C. Le Neve Foster, the executive officer.
R. Soc. for Protec. Life fr. Fire	See Nos. 2 and 3.
Sandwell Training Home -	By some ladies living together, and each taking a share in the work.
Slough Mechanics' Inst. -	By the President, Vice-presidents, Committee elected from the members, Hon. Secretary, and Treasurer.
Sons of the Clergy - -	The Court of Assistants, Elected by the Governors of the Charity for one year, on the 8th of November 1866. *President.*—The Most Rev. Charles Thomas, Lord Archbishop of Canterbury, Primate of all England, and Metropolitan. *Vice-President.*—The Right Hon. Robert, Lord Cranworth. *Treasurers.*—William Taylor Copeland, Esq., Alderman; Rev. James William Vivian, D.D.; Henry Pownall, Esq. *Assistants.*—42 noblemen and gentlemen. *Registrar.*—Charles John Baker, Esq., Corporation House, No. 2, Bloomsbury Place, Bloomsbury Square, W.C. *** A rule of the Court is, that any member not attending for a year shall not be re-elected at the next annual election.
Tyne Docks Inst. - -	Committees of workmen.
Ulster Deaf, Dumb, &c. Soc.	"The Ulster Society for Promoting the Education of the Deaf and Dumb and the Blind," is managed by a committee of 21 members, a treasurer, and two honorary secretaries.
Working Women's College	By the Council of Teachers with the Lady Superintendents, Treasurer, and Hon. Secretary of the College; it is part of the constitution of the college, however, that as the students qualify themselves by passing certain examinations, &c., they shall take part in the management.

51. What is its gross annual income, and whence derived?

Abbotts Ann Prov. Club -	In 1866, 354*l.* 9*s.* 10*d.* From the members' subscriptions.
Aberdeen Fem. Sch. of Ind.	From 400*l.* to 500*l.*, consisting almost entirely of voluntary subscriptions, including a biennial subscription of 25*l.* from Her Majesty the Queen.

Names.	
Cripples' Home - - -	Between 2,000*l.* and 3,000*l.*; derived from subscriptions, donations, payments for girls, and industrial receipts.
Keevil Dist. Society - -	About 300*l.*, by voluntary subscriptions and contributions.
Birkbeck Inst, - - -	The year ending 22 October, 1866, 1,016*l.* 3*s.* 3*d.*, derived from subscriptions of members, admissions to lectures, letting of rooms, &c.
Loyal Bud Friendly Soc. -	About 600*l.*; contributions, fines, entrance fees, &c.
Loyal Orwell Lodge - -	Variable, according to number of members; from members' contributions, fines, initiations, and interest on capital.
Philanthropic Society -	From 7,000*l.* to 8,000*l.*; derived from Government, counties, &c., industrial profits, subscriptions, and donations.
R. Cornwall Polytech. Soc.	The annual income varies; the gross income for the year 1866 amounted to 437*l.* 8*s.* 9*d.* See Question 14.
R. Soc. for Protec. Life fr. Fire	8,800*l.* from voluntary contributions of about 17,000 subscribers in sums from 5*s.* to 5*l.* The Queen 10 guineas per annum, and several parishes and other public bodies, contributions varying according to circumstances.
Sandwell Training Home -	About 1,700*l.*, derived partly from voluntary subscriptions and partly from the payments made by ladies, and for pupils and children placed in the Home to be trained.
Slough Mechanics' Inst.	Average 127*l.* per annum. By members subscriptions proceeds of lectures, entertainments, &c.
Sons of the Clergy -	20,994*l.* 0*s.* 2*d.* Subscriptions and donations, rents of estates, and dividends on funded property derived from voluntary sources.
Tyne Docks Inst. - -	By subscriptions and an annual trip.

	Income.			Expenses.		
	£	*s.*	*d.*	£	*s.*	*d.*
Mechanics' Institute -	35	0	0	34	0	0
Temperance Society -	3	3	0	4	0	0
Bank - - -	200	19	4	3	3	0
Building Society -	1,739	6	10	64	16	10
Bible Society -	5	13	6	2	2	0

Ulster Deaf, Dumb, &c. Soc.	The income has averaged 2,330*l.* for the last five years; derived from voluntary subscriptions, donations, and legacies.
Working Women's College	390*l.*; about one-fourth being derived from the fees of students, the rest from subscriptions.

52. What are the annual expenses of management?

***a.* And of collection, where subscriptions are paid?**

Abbotts Ann Prov. Club -	About 32*l.* *a.* There is no payment for collection of subscriptions; it is included in the above.
Aberdeen Fem. Sch. of Ind.	Nothing. *a.* The collectoress gets about 6*l.*, or 5 per cent on what she collects.
Cripples' Home - - -	About 2,700*l.*
Keevil Dist. Society - -	About 285*l.* (including prizes). No expenses incurred in the collecting subscriptions.

Names.

Birkbeck Inst. - - - About 900*l.* Donations are received by the officers, and no commission paid.

Loyal Bud Friendly Soc. - About 90*l.*, which includes medical attendance for the members.

Loyal Orwell Lodge - - Variable, as shown on Paper No. 3, herewith enclosed.

Philanthropic Society - From 7,000*l.* to 8,000*l.* *a.* About 10*l.* per annum.

R. Cornwall Polytech. Soc. The expenses of management consist of the salary of the secretary and the housekeeper's wages (see No. 54), and the cost of workmen hired for fitting up the annual exhibition. *a.* The subscriptions are for the most part collected by direct application, and partly by collectors, who are paid 5 per cent. on what they receive.

R. Soc. for Protec. Life fr. Fire The whole expenses average about 95*l.* per station, and there are 85 stations.

Sandwell Training Home - None. No per-centage is paid to any person who collects subscriptions. It is hoped that when the *full* number of inmates and pupils is reached, and new and suitable apartments erected, the institution will be nearly self-supporting.

Slough Mechanics' Inst. -

	£	*s.*	*d.*
Annual expenses of management -	8	8	0
Collection where subscriptions are paid - - - - -	4	14	6
Rent - - - - -	25	0	0
Rates, average per annum - -	3	0	0
Gas and coals, average - -	10	0	0

Sons of the Clergy - - The whole of the office expenses including salaries amount to 1,571*l.* 1*s.* 3*d.* *a.* There is no distinct charge for collecting, one of the salaried clerks collects.

Tyne Docks Inst. - - See No. 51.

Ulster Deaf, Dumb, &c. Soc. About 2,360*l.* Nothing specially paid for collecting subscriptions. The only salary paid for management, exclusive of the resident officers in actual charge of the pupils, is about 100*l.* a year an assistant secretary, and 20*l.* to a physician.

Working Women's College 370*l.*

53. What is the number of paid officers?

Abbotts Ann Prov. Club - The secretary, four local secretaries, and five stewards.

Aberdeen Fem. Sch. of Ind. Six.

Keevil Dist. Society - - No paid officers.

Birkbeck Inst. - - - Three.

Loyal Bud Friendly Soc. - Only the secretary.

Loyal Orwell Lodge - - Eight.

Penny Readings, Ipswich - None.

Philanthropic Society - 36.

R. Cornwall Polytech. Soc. Two, a secretary and a housekeeper. The secretary has an assistant, whom he pays himself.

R. Soc. for Protec. Life fr. Fire Secretary, chief clerk, second clerk, five inspectors, and one collector.

Sandwell Training Home - Sixteen; the chaplain, head governess, music governess, drawing master, dancing master, matron over upper school, teacher of boys, three matrons of girls' schools, butler, carpenter, coachman, and three farm labourers.

Names.

Slough Mechanics' Inst. - Two.
Sons of the Clergy - - Four.
Tyne Docks Inst. - - One secretary in connexion with the building society.
Ulster Deaf, Dumb, &c. Soc. A Principal or head master; a matron; six assistant teachers; a physician; an assistant secretary; a printer, and matmaker.
Working Women's College One; the teacher of the preparatory classes, viz., those for teaching reading and writing.

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54. And their salaries?

Abbotts Ann Prov. Club - The secretaries are paid sixpence per head, and a per-centage on the surplus fund. (See Rules 7 and 28.) This amounts to about 18*l.* per annum to the secretary, and to an average of 1*l.* 5*s.* to the local secretaries. The stewards are paid each about 15*s.* per annum, according to their attendances at the monthly meetings.

Aberdeen Fem. Sch. of Ind.

	£	*s.*	*d.*
Matron, with board and lodging ..	25	0	0
Teacher, do. do. -	20	0	0
Cook, do. do. -	10	0	0
Sewing mistress - - -	7	13	4
	62	13	4

Two pupil teachers get grants from Government annually, one of whom, wholly trained in the Institution, obtained in January 1867, after competitive examination, a first class scholarship at the Normal College, Edinburgh.

Cripples' Home - - - 262*l.*
Keevil Dist. Society - - No salaries paid.
Birkbeck Inst. - - - Secretary, 60*l.* per annum; resident librarian, 45*l.* per annum; porter, 54*l.* 12*s.* per annum.
Loyal Bud Friendly Soc. - 12*l.* 16*s.* 3*d.*, as per balance sheet.
Loyal Orwell Lodge - - Variable, as shown by Paper No. 3, enclosed herewith.
Penny Readings, Ipswich - None.
Philanthropic Society - 2,350*l.*
R. Cornwall Polytech. Soc. Secretary, 80*l.* per annum; housekeeper, 6*l.* 10*s.* per annum. This official (housekeeper) also receives a small salary from some institutions under the same roof.
R. Soc. for Protec. Life fr. Fire Under 1,000*l.* (one thousand pounds).
Sandwell Training Home - About 600*l.*

Slough Mechanics' Inst. -

	£	*s.*	*d.*
Housekeeper and librarian - -	4	10	0
„ as collector, with residence - - - - -	4	14	6
Assistant master - - - -	3	18	0

Sons of the Clergy - - Eleven hundred pounds (1,100*l.*).
Tyne Docks Inst. - - Secretary 30*l.*
Ulster Deaf, Dumb, &c. Soc. Total salaries, about 800*l.*
Working Women's College 10*s.* per week of five evenings.

Names.	**55. The conditions on which the inmates are commonly received, and the average duration of their stay in the institution?**
Aberdeen Fem. Sch. of Ind.	The conditions are abject poverty; say three years.
Cripples' Home - - -	Unable to provide for themselves; trained for three years.
Birkbeck Inst. - - -	By paying subscription. The members being a fluctuating body, it is impossible to give an average, but the length of membership varies from 43 years to three months.
Philanthropic Society -	Under sentence of detention; varying generally from three to five years.
R. Soc. for Protec. Life fr. Fire	Vide Rules.
Sandwell Training Home -	Several ladies pay annually, some at the rate of 50*l.*, others *weekly*, for their board and lodging. Pupils in the upper school pay on an average 35*l.* annually. Children in the industrial school pay on an average about 12*l.*, but many are received without payment.
Ulster Deaf, Dumb, &c. Soc.	As stated in answer to query 9.

	56. The weekly cost of the inmates per head. If entirely, or in what proportion it is defrayed from the funds of the institution, or in what other way?
Aberdeen Fem. Sch. of Ind.	Some years the weekly cost is about 2*s.* per head. If provisions are cheap it has been 1*s.* 10*d.* It is entirely defrayed from the funds of the institution.
Cripples' Home - - -	About 7*s.* weekly; defrayed from the funds of the institution, with the exception of 8*l.* per annum required with each inmate.
Birkbeck Inst. - - -	About 4*d.*, entirely defrayed from the funds of the institution.
Philanthropic Society -	Gross weekly cost per head per week, 9*s.* 2*d.*; net cost, 7*s.* 6½*d.*, the difference being defrayed by industrial profits, such as farming, brick-making, &c.
R. Soc. for Protec. Life fr. Fire	See answer 52.
Sandwell Training Home -	About 5*s.* 6*d.* for food, and the *average* cost of each 1*l.*, taking into consideration the salaries of the officers employed either in teaching or in the care of the young people. Every pupil is expected to pay about 35*l.* annually. For every child in the industrial school, except those on the *free* list, a quarterly payment is required for *one year*, viz., 6*s.* weekly for boys not orphans, 5*s.* for orphan boys; 5*s.* weekly for girls not orphans, 4*s.* for orphan girls.
Ulster Deaf, Dumb, &c. Soc.	About 7*s.* per head, for board, clothing, education, &c., &c.; and entirely defrayed out of the funds of the society.

	57. Is any, and what money allowance made to the inmates, and any, and what gratuity given to them on leaving the institution?
Aberdeen Fem. Sch. of Ind.	Those girls who leave for domestic service get a considerable part, if not the whole, of their necessary outfit.
Cripples' Home - - -	Reward money according to merit, which is banked and given to them on leaving the institution; also a good outfit.

Names.

BIRKBECK INST. - - - None.

PHILANTHROPIC SOCIETY - (See "Boys' Rewards," in Appendix.) They are furnished with outfit, &c., varying according to their destination, as emigration, or otherwise.

SANDWELL TRAINING HOME - An outfit for service is given to each boy or girl leaving the Home after two years' good conduct on being placed in a situation. The cost of such outfit is entirely defrayed from the funds of the institution.

SONS OF THE CLERGY - - There being no buildings, there are no inmates. The total sums distributed were in:—

	1864	1865	1866
	£	£	£
To poor clergymen - -	3,758	3,920	4,313
In pensions and donations to widows - - - -	7,265	6,705	6,750
In pensions and donations to unmarried daughters -	5,320	5,115	5,095
In educating, apprenticing, and providing with outfits, the children of poor clergymen - - - -	2,953	2,853	2,831
	19,296	18,593	18,989

ULSTER DEAF, DUMB, &c. SOC. Only in the shape of apprentice fees.

58. State what has been the total yearly cost during the last five years.

ABERDEEN FEM. SCH. OF IND. In 1862, 438*l.* 11*s.* 11½*d.*; 1863, 421*l.* 7*s.* 4*d.*; 1864, 433*l.* 16*s.* 2½*d.*; 1865, 491*l.* 5*s.* 11½*d.*; 1866, 505*l.* 12*s.*

CRIPPLES' HOME - - - See treasurer's report.

KEEVIL DIST. SOCIETY - Average annual cost during the last five years (including prizes) 279*l.*

BIRKBECK INST. - - - Year ending 21 October, 1862, 1,492*l.* 8*s.* 4*d.*; year ending 21 October 1863, 1,170*l.* 16*s.* 6*d.*; year ending 21 October 1864, 1,005*l.* 4*s.* 3*d.*; year ending 21 October, 1865, 774*l.* 5*s.* 2*d.*; year ending 21 October, 1866, 1,044*l.* 7*s.* 11*d.* This includes payment of old debts, &c.

R. CORNWALL POLYTECH. SOC. The total yearly cost during the last five years amounts to 2,351*l.*

SANDWELL TRAINING HOME - In 1862, 1826*l.* 17*s.* 3*d.*; in 1863, 2,182*l.* 19*s.* 2*d.*; in 1864, 1,819*l.* 18*s.*; in 1865, 1,819*l.* 18*s.*; in 1866, 2,106*l.* 2*s.* 8½*d.*; total, 10,358*l.* 12*s.* 7½*d.*

ULSTER DEAF, DUMB, &c. SOC. Average of yearly cost during the last five years, 2,362*l.*; gross total during the last five years, 11,810*l.*

59. Is there any provision made to guard against or provide for—

a. **Sickness.**
b. **Education.**
c. **Religious teaching.**
d. **Recreation.**
e. **Temperance.**

ABBOTTS ANN PROV. CLUB - *a.* Provision is made by the members themselves for ick and old age (see Rule 15), allowance (see Rules

Names.	
Abbotts Ann Prov. Club —*cont.*	4, 5, 8, 10, 12), and medical attendance (see Rule 6, and scheme marked (B.)); and the balance of their fund is paid over to the relatives on death (see Rule 20).
Aberdeen Fem. Sch. of Ind.	*a.* The establishment has the attendance gratuitously of Dr. Feddes, a medical practitioner in Aberdeen. The girls have been wonderfully healthy; some years no deaths have occurred, and in no year has there been more than two deaths. *b.* Reading, writing, arithmetic, sewing, knitting, washing, and household work generally. *c.* Direct religious teaching is imparted to the girls daily. The Bible is read daily. Portions of it are committed by them to memory weekly, on which the girls are exercised every Sabbath evening. The school is opened and closed with prayer daily. *d.* There is a large playground attached to the school.
Cripples' Home - - - -	*a.* The medical officers benevolently give their services gratis; but the expenses attendant upon illness amongst the inmates provided for from the funds of the institution. *b.* Secular and religious education kindly given daily by friends of the institution. The inmates formed into small classes. Report of the Rev. Sydney Turner (Her Majesty's inspector of reformatory and industrial schools,) on visiting the Home, Nov. 1866 :—"I have inspected the institution with very great satisfaction. The premises are clean and in excellent order. The girls look comfortable, and are well cared for. Their industrial training well attended to. In school instruction they are not very far advanced ; but the 1st class (about 14 girls) read, write, and cipher very well." *c.* Daily family prayers; Sunday and weekly Bible classes; regular attendance at church. *d.* An hour's daily walk in the park ; lectures on interesting subjects; by medical advice a short annual period at the seaside.
East London Refuge, &c. -	*a.* We have a medical officer who gives his advice and medicines gratis. *b.* A school is held every evening in the Refuge, from 7 to 9 o'clock, Saturdays excepted, funds provided by the Institution. *c.* Reading and prayers every morning and evening, and on Sundays the boys attend church once, and Sunday school in the afternoon, from 2.30 to 4.30. *d.* Boys are allowed an hour for play, and are often taken out under the care of an inspector.
Jackson, E. (Hull) - -	*c.* The compulsory practice of the noblest devotional music of Handel, Cherubini, Beethoven, and Mozart. *d.* Meetings of the organization necessitate travelling, which is a physical recreation, and musical practice, which is a mental one. *e.* The penalty of intoxication is expulsion, and entire exclusion from all advantages of the organization.
Keevil Dist. Society - -	*a.* Sickness guarded against by encouraging improvements in the dwellings of, and fostering habits of cleanliness and other matters incidental to the health and comfort of the workman generally. *b.* By promoting and fostering improvement in household, domestic, and horticultural matters generally. *c.* Not applicable to this society. *d.* By holding on certain days set apart especially for the purpose, public exhibitions of cottagers, or labourers

Names.	
Keevil Dist. Society—*cont.*	produce, under marquees, &c., erected in the pleasure grounds of the gentry of the locality, at which bands of music and other amusements of a healthy and instructive character are provided free. *e.* Temperance is fostered by encouraging the workman to devote his spare hours to the cultivation of his garden, the improvement of his dwelling, horticultural attainments, and other matters incidental to the home of the workman, thus fixing his attention on matters which add to the personal comforts and prosperity of himself and family, and as it were wean him from the ale house and its consequences. Great and unexpected results have in this respect been accomplished.
Birkbeck Inst. - -	*a.* None through the institution. *b.* Dissemination of education the only object of the institution. *c.* None. *d.* Lectures, concerts, entertainments, boating and cricketing clubs, soirees, excursions, and picnics. *e.* None.
Philanthropic Society -	*a.* The Philanthropic Society provides medical attendance for all the boys and all resident officers as well as for the workmen who live on the estate. *b.* There is a daily service in the school chapel; family prayers, &c., daily in every house, and regular lessons in school. (All the workpeople have access to the chapel services.) *c.* Occasional lectures, exhibitions of dissolving views, &c., &c.; weekly meetings of the boys for musical and literary entertainments, furnished by the staff, during the winter; in summer all usual games, cricket, football, &c. &c.
Ragged School Shoebl. S c.	*a.* The committee provide medical attendance; and also assist the boys in cases of serious illness. In cases of slight illness the boys are allowed to draw from their own "banks," for their support. It is found necessary in dealing with boys to avoid any premium upon their pleading illness for absence from work. When a boy dies his comrades usually subscribe towards his burial. *b.* All the boys are attached to some ragged school which they are obliged to attend on Sunday. There, is also evening instruction at each society, under a schoolmaster paid out of the funds of the society, on three or more evenings a week. Also those boys who lodge at the societies' houses have generally additional instruction from the superintendent. *c.* Sunday school, prayers in the morning and evening. *d.* The occupation is in itself amusing as well as healthy to boys. In the evening they have at the society games of drafts, dominoes, &c., and illustrated periodicals, which are provided for them. Each society has a winter treat and a summer excursion, and occasionally other entertainments suited to boys. *e.* Not considered necessary in consequence of their youth.
R. Cornwall Polytech. Soc.	*a.* No answer. *b.* The *education* of the community generally is promoted by the exhibitions and stimulated by prizes, for detailed list of which see accompanying annual report. *c.* No answer. *d.* The exhibitions provide a useful form of *recreation* and a social intercourse of various classes, tending to their mutual instruction and harmonious co-operation. *e.* No answer.

Names.	
R. Soc. for Protec. Life fr. Fire	*a.* A sick fund is established to which every member contributes 1*s.* per month; to this the committee also allow all fines for breech of minor rules and regulations to be devoted; they also contribute an average amount of about 25*l.* per annum in aid of the funds. The men are attended by the Society's surgeon when requiring him, without cost, every man when sick or declared "on the funds," receives 10*s.* per week. *b.* The children are all in attendance whilst young at parochial and district schools, some at the Home and Colonial model schools; the members of the force are for the most part of a class who care greatly for the education of their children, and require no persuasion, but are occasionally glad of advice. *c.* The opportunity is taken of the force assembling to be paid every Thursday, to hold a special service followed by an address, from one of eight chaplains who take the service in monthly rotation (honorarily), and every opportunity is taken to promote religious feeling and observance. *d.* A lending library of amusing and instructive books is available to all the members of the force. They are allowed a substitute from the supernumeraries under certain rules, and when necessary under the advice of the surgeon, can have the benefit of the Society's arrangement with "The Convalescent Institution at Walton-on-Thames." *e.* As regards temperance, the peculiar duties of the men are such as to require stringent rules, and the slightest infringement subjects to dismissal; the offence is exceedingly rare of anything approaching to intoxication, and never with any of the trained hands.
Sandwell Training Home -	*a.* The air of Sandwell being fortunately salubrious, very little illness has ever occurred, and then only by the casual admission of diseased children; precautions are, however, taken to exclude all likely to prove injurious to the others. *b.* A daily and evening school conducted by the ladies, assisted by a pupil teacher, is held in the institution for the benefit of the poor children. The upper school for governesses is instructed by two resident governesses and masters, and other teachers attend periodically to give lessons in music, drawing, and dancing. *c.* The chaplain performs two full services in the chapel every Sunday, and occasionally examines and instructs the young people, prepares them for confirmation, &c. *d.* There are very extensive grounds, and a covered place for the boys' sports in wet weather. The boys have a band of fifes and drums. *e.* No beer is allowed to the young people.
Tyne Docks Inst. - -	*a.* About 500 workmen at the docks are members of the following societies: Odd Fellows, Foresters, Loyal Orangemen, Druids, and Free Gardeners; from which the following allowances are made (from each society) in case of sickness or death:— For the first six months - 10*s.* per week. For the next three months - 7*s.* 6*d.* per week. For the next three months - 5*s.* per week. and in some cases 3*s.* per week for the rest of illness. 7*l.* to 10*l.* per death. Subscriptions 1*s.* 8*d.* per

Names.	
Tyne Docks Inst.—*cont.* -	month. Medical attendance, free. Also an "Accident Fund," from which 10*s.* per week is paid; subscription 1*d.* per week. *b.* Day and evening schools established by the workmen, 1st October 1866, on the British and Foreign system, and held in the Mechanics' Institute. Children attending day school 260; night school 30. Funds provided from school pence, and by Government assistance according to attendance and proficiency of scholars. *c.* Church of England and Sunday school; Methodist Free Church and Sunday school; Primitive Methodist Chapel and Sunday school and Congregational Sunday school. *d.* Library, lectures, music, and readings, during winter evenings, cricket, quoits, swimming, &c. *e.* Lectures, tracts, and visitation. A Temperance Society was formed in November 1859. The members enrolled number 280, nearly 11 per cent. of the inhabitants (3,000) of Tyne Docks, 100 out of the 280 are workmen, (1,000) or 10 per cent.
Ulster Deaf, Dumb, &c. Soc.	*a.* All cases of sickness are attended to by the physician of the institution. Infectious cases are removed to hospital. *b.* The deaf and dumb, and blind children receive a sound English education, embracing reading, writing, arithmetic, geography, natural history, English history, astronomy, composition, &c. The blind are also taught vocal and instrumental music. Almost the entire household labour and needlework of the establishment are performed by the pupils. *c.* The religious instruction is in accordance with the doctrinal standards of the churches of England and Scotland. *d.* Gymnastic exercises, football, cricket, bathing, walking out to the country, &c. *e.* Abstainers from all intoxicating beverages.

60. What has been the average sum spent under each of these heads, during each of the last five years?

		£	*s.*	*d.*
Sickness	1862 - - - -	42	10	0
	1863 - - - -	50	4	3
	1864 - - - -	46	6	7
	1865 - - - -	43	6	1
	1866 - - - -	73	5	0

Abbotts Ann Prov. Club -	
Aberdeen Fem. Sch. of Ind.	In the case of sickness a few shillings annually. In recreation, nothing.
Cripples' Home - - -	See treasurer's report.
Keevil Dist. Society - -	No 32 and 35 jointly, about 200*l.* No. 34, about 85*l.*
Birkbeck Inst. - - -	The whole income is spent in the one object of the institution. The boating and cricketing clubs, soirees, and picnics are not included in the accounts of the institution, except a profit be handed over. The annual excursion, lectures, concerts, and entertainments are always included. The average cost of the lectures, concerts, and entertainments is 120*l.* per annum; the annual excursions average 12*l.*, but in general leave a profit.
R. Cornwall Polytech. Soc.	Upwards of 3,700*l.* has been spent in prizes and medals by the society since its foundation. Average for last five years, 90*l.* 18*s.*

Names.	
Sandwell Training Home -	In sickness and medical advice, about 5*l.*; in education, including salaries of chaplain, teachers, governess, and masters, 243*l.* 13*s.* 1*d.*; in recreation, musical instruments, &c., about 3*l.* annually.
Tyne Docks Inst. - -	*a.* Cannot ascertain, time will not permit. *b.* At the rate of 182*l.* per annum. *c.* Cannot ascertain. *d.* About 15*l.* per annum. *e.* About 5*l.* per annum.
Ulster Deaf, Dumb, &c. Soc.	Cannot be correctly answered.

61. By whom, and under what control are the funds managed?

Abbotts Ann Prov. Club -	The funds are managed and are under the control of the committee; which consists of a treasurer, three trustees, two visitors, a secretary, and five stewards. (See Rule 24.)
Aberdeen Fem. Sch. of Ind.	Entirely by the honorary secretary and treasurer.
Cripples' Home - - -	By the gentlemen's committee.
East London Refuge, &c. -	By a committee. See report.
Keevil Dist. Society - -	A managing committee.
Birkbeck Inst. - - -	By the committee elected by the members, as before stated.
Loyal Bud Friendly Soc. -	13 members, annually elected; and in addition the three trustees, who are called the committtee of management. See Rule 8.
Loyal Orwell Lodge - -	In conformity with the first law of the Orwell Lodge, a copy of which is enclosed herewith.
R. Cornwall Polytech. Soc.	By a finance committee.
Sandwell Training Home -	Entirely by the lady superintendent; but it is expected that very shortly a more efficient person may be appointed for the special purpose of regulating the expenditure.
Slough Mechanics' Inst. -	By the committee of management, viz.: the Presidents, Vice-presidents, Committee chosen from members, Secretary (Hon.), and Treasurer.
Sons of the Clergy - -	All payments are made by order of the Court of Assistants. The Finance Committee meet monthly and check every receipt and payment. The Audit Committee meet every February to audit the annual accounts. The three Treasurers have a joint account at Messrs. Hoare's bank, and all receipts and payments pass through that account. The Registrar is entrusted by the treasurers with a letter of credit to a limited amount, as may be required from time to time; he finds three sureties for 3,000*l.* The Accountant gives security for 500*l.*, and the clerk collecting for 100*l.* The account books are kept by double entry.
Tyne Docks Inst. - -	Committees, Secretaries, and Treasurers.
Ulster Deaf, Dumb, &c. Soc.	Managed by a committee, who are appointed annually at a public meeting of the society.
Working Women's College	By a finance committee, formed of three of the council, one of the three being the Treasurer.

62. Have you any other information to offer on this subject, or in regard specially to your establishment?

Abbotts Ann Prov. Club -	The society for which I venture to make a claim for consideration is one of those minor institutions of

Names.

ABBOTTS ANN PROV. CLUB —*cont.*

England, which has been little heard of beyond the locality in which it exists, and yet has had a powerful influence upon other more extended and important institutions.*

The Abbotts Ann Provident Benefit Club is an improved club of the village type. The area of the village is about 3,300 acres. The population at the last census was a little over 600. It is chiefly agricultural, with a small intermixture of persons employed at a neighbouring iron foundry, the wages varying from 10*s.* to 12*s.* a week. The Club has existed 36 years on a foundation and principle very different from the type of the common village club. Its principle is a combination of that of the savings' bank with a rate to meet the demands of sickness or old age; and its foundation the security of trusting each member with the care of his own funds and interests. As in the savings' bank, each member's account is kept separate, and under his own control. His account is rated for sick or old age payments; not according to its amount, but according to the amount of daily or weekly sick pay which he himself claims; while to check any undue claim, he has to pay a fixed portion of it from his own fund (see Rules 4, 5, 8, and 10), aad cannot receive more than his average wages (see Rule 13). It has been found under these conditions and with corresponding checks (see Rule 16), that the members see that their interest is that also of the club. It has, under the Divine blessing, been a wonderful instrument of regenerating a community, which at its commencement had no labourer or mechanic who had not received from the poor's rate in aid of his weekly earnings, and greatly reduced the number of those dependent on the poor's rate, while it has inspired a spirit of independence into the labourer.

* The principle of this club has been adopted by several others in the neighbourhood, by others in different parts of England, as Mickelton in Gloucestershire, and Woodhouse Eaves, Leicestershire, and also by the Wilts County Friendly Society, which has a branch or class founded on this principle. See papers sent marked (A).

ABERDEEN FEM. SCH. OF IND.

The girls are fed all the year round, and partly clothed. Twenty-six are lodged in the premises; this is owing chiefly to the fact that their parents were in the practice of stripping them at night and pawning their clothing. On referring to the acpanying reports it will be seen that both Mothers' and Daughters' Meetings are weekly held in the establishment. A penny bank has also been established. In the evening in the premises there is a class for old scholars employed throughout the day at our public works; 60 names are on the roll, and the attendance is from 40 to 50. The teacher of this class visits amongst the girls or their parents, daily at their own homes; religious and instructive periodicals are by her circulated amongst them. There is a Bible woman employed to visit daily amongst the mothers of the children at the school,

Names.	
Aberdedn Fem. Sch. of Ind. —*cont.*	to encourage them in well-doing and report to sickness or distress to the secretary and treasurer (or his wife), when relief is attempted to be afforded. Upwards of 1,000 girls have been educated and trained in this establishment, and fully 90 per cent. are doing well. Within the last seven years upwards of 100 girls have, on producing certificates of good character from their employers, got 10*s.* each from a benevolent lady as a reward for remaining 12 months in their first situations as domestic servants. Within the last five years 100 girls have got assisted passages to New Zealand. They are there earning far higher wages than they got at home. Nineteen girls were sent to this colony in June last; by a letter from one of them, received by the secretary and treasurer on Saturday 19th January, she mentions that they arrived on a Friday, next day they were all engaged as domestic servants, their wages ranging from 20*l.* to 40*l.* per annum, with bed and board; this girl sent the secretary and treasurer 2*l.* as a donation to the school, being her first month's wages; she was a wandering beggar picked off the streets by him some 14 years ago. About 70 of the 100 girls who have emigrated to New Zealand, it is believed, are comfortably settled in their own homes. Six of the girls are employed in situations of trust in a cooking depôt lately established by the secretary and treasurer for behoof of the working classes in Aberdeen.
Cripples' Home - - -	That the institution is a manufactory as well as charitable, and that many of the cripples have been so benefited, as to be able to cast away their crutches and earn in houses of business from 10*s.* to 15*s.* per week.
East London Refuge, &c. -	I have answered all that is applicable to this establishment.—S. Wise.
Keevil Dist. Society - -	No; unless in reply to any further inquiries which may be deemed necessary. Saving that the character of the society appears by the spirit of harmony which has hitherto existed among all those co-operating in its management, &c., as well as having provided for the material, moral, and intellectual well being of the workman, to fulfil the conditions laid down for the new order of reward. It is particularly hoped that the jury and others interested in making the awards, will kindly consider the detailed particulars of the claim which was forwarded to Paris on the 23rd of October 1866.
Birkbeck Inst. - - -	See Question 69, Appendix to Form 56.
Loyal Bud Friendly Soc. -	No further than this, we have gained popularity and confidence by the firmness of our foundation, and the benefits we confer. The prompt payment of all claims has not only advanced the Institution in public estimation, but has increased its prosperity.
Penny Readings, Ipswich -	I refer again to my book "Penny Readings in Ipswich and elsewhere," which is forwarded with this, as the best, and I believe the only printed history of the rise and progress of Penny Readings up to 1864. Since that date they have extended, and on the Ipswich model, to all parts of England, Scotland, Ireland, and Wales.

Names.	
PHILANTHROPIC SOCIETY - R. CORNWALL POLYTECH. SOC.	

See Appendix page 410.

This society is the first Polytechnic society established in Great Britain, and many others have followed on similar principles. It is the first which instituted annual exhibitions of mechanical inventions, works of art, scientific and school productions. During its existence it has expended in prizes of cash and medals 3,718*l.* It has distributed one gold medal, 224 silver medals, and 568 bronze medals.

The society has always paid particular attention to the health and condition of the mining population of the county, and being desirous of relieving them from the toil to which they were exposed in climbing up from deep mines by ladders, premiums were offered and paid for the best mechanical invention for raising miners from deep workings. The first suggestion and premium for this purpose were offered by Charles Fox, Esq.

In the year 1838 the society offered a further premium of 500*l.* to any set of mine adventurers who should first bring the proposed plan into actual working. In the year 1843 the premium of 500*l.* was awarded to Tresavean mine for having put up and worked the man engine, or "*fahr-kunst.*" On the 25th September 1843 a letter from Tresavean mine, signed by 391 working miners, gratefully acknowledges the efforts of the Polytechnic Society to introduce the man machine, which (in their own words) "is of more importance than we can find language "to express."

In 1844 Captain Francis reported that 490 persons were let down and taken up by it daily. The rods were nearly 240 fathoms in length. Captain Richards computed that in less than three years it would have compensated the adventurers who introduced it.

Some years later a premium of 100 guineas was given to the adventurers of the United mines for having put up a man machine. The man engine or *fahr-kunst* has since been introduced into the following Cornish mines:—Dolcoath, Cook's Kitchen, Carn Brea Mine, Fowey Consols, and Wheal Reeth.

Premiums have also been offered for the better ventilation of mines and for lessening the dangers of blasting rocks.

In 1840 Canon Rogers stated that, "Mr. Fox's "ingenious method of blasting rocks had been found "to be entirely successful, and the miners exceed-"ingly fond of it."

The society was the first institution which made a public award to Mr. Clifford's well-known invention for lowering ships' boats.

A great proportion of the most recent inventions for improvements in mining operations have been first exhibited in the Polytechnic Hall, and the society has been the means of bringing into notice numbers of men of talent who would otherwise have been without the opportunity of making known their acquirements.

Among other fruits of the society are its meteorological and scientific registers, its summary of the

Names.	
R. Cornwall Polytech. Soc. —*cont.*	Cornish fauna by J. Couch and others, collections of minerals, R. W. Fox's observations of the temperature of the earth and on mineral veins, the electro-magnetism of the latter, and their formation in the laboratory; his compass (the dipping needle deflector) now widely distributed; improvements of philosophical instruments, self-registering meteorological instruments, Jordan's dividing instruments, Wilton's and other dials, mining machinery, and parts of steam engines. The scientific character of the society is acknowledged by the most eminent philosophical bodies in Great Britain and Ireland, and on the continent of Europe and America, many soliciting an interchange of communications and presenting us with copies of their transactions. The society has been empowered by the Board of Trade and Royal Society to conduct the meteorological observations at Falmouth, which has been selected as one of the six stations in Great Britain. In 1856 a travelling agency was started to teach the blind (accidents being numerous in the county from blasting), it being the aim of the Polytechnic Society to direct its efforts to the amelioration of suffering humanity, as had been done in respect of the man machine and its efforts for the ventilation of mines. In 1859 the Polytechnic Society aided the movement of the Miners' Association, originated chiefly through the instrumentality of Robert Hunt, Esq., F.R.S., who stated that it had its origin within the circle of the Polytechnic influence, had 200 subscribers and an income of 260*l.*, four classes at work —St. Just, St. Agnes, Lostwithiel, and Tywardreath, and that other districts were anxiously asking for the services of the lecturers. The annual meetings of the Miners' Association are held in the committee room of the Polytechnic Society. Reference has already been made to the influence of the society in encouraging practical applications of mechanical science, of physics, of natural history, in stimulating habits of observation in the young, and in endeavouring to promote the comfort and health of the miner. We may also add, there is abundant evidence of the fruits which have resulted from this influence on science, art, and education. Several, whose names it would not be proper to mention without their consent, are now filling honourable and useful positions in these departments of human industry, whose talents were fostered and their advancement greatly promoted by their connexion with the Royal Cornwall Polytechnic Society.
Sandwell Training Home -	Twenty governesses have been received, instructed, and sent out from the Home since 1857; 212 young girls have been admitted into the Home, of whom 120 have been sent out as servants; 5 as pupil teachers; 17 removed by friends to work at home; 25 dismissed for misconduct; 29 removed on account of serious illness or infectious disease; 1 placed as nurse in general hospital; 11 remain in the Home. 78 boys have been received, of whom 22

Names.	
Sandwell Training Home—*cont.*	have been placed in service; 3 have entered the Royal Navy; 8 have been apprenticed to trades; 13 remain in the Home; 7 removed by friends to other homes; 12 dismissed on account of illness, 11 for misconduct.
Sons of the Clergy - -	There is probably no other charity in the United Kingdom which year after year for so long a period has distributed, and continues to distribute, so large a sum for the benefit of persons not residing in any particular building. It is considered that to make pecuniary grants to the applicants for the Charity, allowing them to reside where economy, health, occupation, friends, or other inducements may lead them, and not marking them (as is done by residence in an asylum) as unfortunate persons subsisting on the bounty of others, is the truest and best charity, and the governors find from long and wide experience the aid thus given is the most useful and valued. Grants for education are also found to be more convenient, efficient, and economical to the Society and parents, and more advantageous to the children than the ordinary plan of confining the proffered education to one school, which, on account of distance, climate, the age and number of the children, the description of tuition imparted, and many other reasons, is very often unavailable to a child, or unsuited and objectionable. The Corporation does not administer its bounty by a majority of votes amongst the subscribers and donors, a system full of evil, causing much expense, trouble, and anxiety (often fruitlessly) to the applicants, and tending to the exclusion of the most friendless and impoverished. No canvassing is allowed, the applicants are put to no expense, the facts of each case are carefully inquired into, but without hurting the feelings of the applicant, and the comparative merits and necessities of cases alone guide the governors to a decision.
Tyne Docks Inst. - -	We beg reference to our application, sent to M. Le Play, Councillor of State General Commissioner, Paris, November 28th, 1866. Copy herewith.
Ulster Deaf, Dumb, &c. Soc.	One especial feature which we believe to be peculiar to the "Ulster Institution" is that, though the process of instruction is different in each case, the education of the deaf and dumb, and the blind is carried on in the same establishment. Mutual advantages are thus enjoyed by these afflicted classes from their daily intercourse, through a novel and interesting mode of communication. Their sympathies are drawn forth towards each other. The mute becomes the guide and guardian of the blind; and on the other hand his sightless companion, by his superior command of language, largely assists him in the acquisition of knowledge.

68. What special means are adopted for securing the object for which the Establishment was formed?

Aberdeen Fem. Sch. of Ind.	Feeding, partly clothing, and educating the girls, mentally and morally.

Names.	
Ballinasloe Dist. Agric. Soc.	The dissemination of agricultural instruction, and the offer of prizes annually to be competed for in the cultivation and management of the farm, and of other prizes to be awarded at an exhibition of stock and agricultural products, and of specimens of every kind of domestic manufacture suitable to the cottage.
Board of Arbitration, &c.	The appointment of a board composed equally of manufacturers and workmen to which all questions relating to wages are referred.
Cripples' Home - - -	Careful training by competent teachers.
East London Refuge, &c. -	Constant communication with ragged schools.
Birkbeck Inst. - - -	Classes, lectures and entertainments, reading room, library.
Loyal Bud Friendly Soc. -	By a payment of an initiation fee from 5*s.* to 20*s.* according to age, and a monthly payment varying from 1*s.* 8*d.* to 3*s.* 9*d.*; an extra 1*d.* per week for medical attendance, and ½*d.* per week for management expenses; subject to fines and funeral levies.
Loyal Orwell Lodge - -	By money raised by entrance fees, subscriptions of members, fines, donations, and by interest on capital. *See* laws for the government, enclosed herewith.
Slough Mechanics' Inst. -	By lectures, classes, reading room, and the use of library.
Sons of the Clergy - -	Making publicly known in various ways the objects and claims of the Society, and thus eliciting voluntary contributions from benevolent persons.
Ulster Deaf, Dumb, &c. Soc.	A suitable range of buildings has been erected at considerable cost. A thoroughly efficient staff of teachers and officers is maintained, who successfully apply the peculiar and very difficult * system of instruction required for the deaf and dumb and the blind. A diligent enquiry is made after uneducated deaf mutes, and blind; a careful surveillance is maintained over educated pupils, and systematic efforts are put forth to raise the income required by voluntary contributions. * See some of these difficulties referred to in Pamphlet marked A., Appendix.
Working Women's College	1st. Gratuitous teaching on the part of ladies and gentlemen known to be thoroughly competent to teach. 2nd. The superintendence of ladies, the lady superintendents, &c.—who manage the business of the college every evening. 3rd. The existence of a coffee room, or large general sitting room, comfortably furnished, and supplied with newspapers, periodicals, &c., which provides for the intercourse of students amongst themselves and with their teachers, and from time to time with friends outside the college who sympathize in its plans and spirit, and which becomes increasingly the centre of valuable social life. 4th. The whole spirit of the management,—which promotes mutual help and fellowship between all members of the college (teachers and students), and makes itself felt in the smallest details.

Names.	**69. Give a short sketch, with statistics of its progress, development, and present prosperity.** [Copies of the earliest and latest reports (including the balance sheets) should be filed with this form.]
Aberdeen Fem. Sch. of Ind.	See answer to question No. 62. The 3rd, 6th, 8th, 9th, 10th, 14th, 15th, 17th, 18th, 21st, 22nd, 23rd, and 24th annual reports by the honorary secretary and treasurer are herewith sent; a few more reports might be sent if required.
Ballinasloe Dist. Agric. Soc.	When the society was founded as above stated, the state of agriculture was of the very rudest kind; the farmers for the most part holding from 6 to 20 acres each were miserably poor, and the labourers, numerous to excess, were nearly destitute from insufficient employment. The society by the efforts of individual members, by holding in different parts of the district ploughing match meetings where large bodies of the people could be addressed, by the agency also of a paid agriculturalist in constant employment, and by the circulation of useful publications imparted information and awakened among them a spirit of improvement, evidenced not alone by their competing for the society's prizes, but by the improved state of their farms and dwellings. The progress of the society may be gathered from its annual reports, sent herewith, but the only statistical fact that can be referred to in connexion with it, is the gradual increase of its members from 60 in the outset, to 196 at the close of 1866 (the report for which is still in the hands of the printer) and the support it now receives from the poorer classes.
Board of Arbitration, &c. -	See the "Account of the Origin and Progress of the Board" accompanying this document.
Cripples' Home - - -	Some of the cripples have been so much benefited by their residence in the institution as to be able to cast away their crutches, and have been so well taught as to be able to earn in houses of business from 10*s.* to 15*s.* per week. Many of the strong girls are doing well in service, some have emigrated, and others have married.
East London Refuge, &c. -	Established in 1854, as a shoe-black society, at a small house, No. 14, Colchester Street, Whitechapel, which was soon found to be too small; in the course of 18 months afterwards a refuge was formed, and industrial work carried on at the new Home, No. 81, High Street, Whitechapel, where after three years the same difficulty arose, want of room to carry on the operations of the society, viz., tailoring, shoe-blacking in the streets, shoe-making, and blacking-making; a removal was again effected to the present premises, 4, Mansell Street, Whitechapel, in 1859, where the industrial employments have been changed to brush-making, paper-bag-making, ink-making, blacking-making, and shoe-blacking in the streets. The same want of room is still felt, and the committee again desire larger premises, but for want of funds are obliged to defer removal. Much practical good has resulted from this school, and many who were once poor outcast boys are now filling respectable stations in society. Many boys

Names.

EAST LONDON REFUGE—*cont.*

BIRKBECK INST. - - -

have emigrated, and many are serving in the army and navy. Above 4,000 have passed through the institution since it was opened.

Since the foundation of the institution about 45,000 persons have availed themselves of its advantages, many of whom are now distinguishing themselves in various branches of the arts and sciences, a knowledge of which they acquired in this institution. Others have received appointments in the civil service, and many have taken high positions in the mercantile world, several becoming employers of labour. The institution has also taken a very good position through the success which has attended those members who have presented themselves at various public examinations, and have carried off prizes and certificates. The institution has not as many members as it had at its earliest stage, which may be accounted for by the fact that there are many institutions now in existence of a similar character. It has been computed that nearly 600 institutions of a like kind have been established in Great Britain, which have been called into existence by the example given by this, the parent Mechanics' Institution. It is hoped that the institution is now entering on a new era of its existence, which will be marked by great prosperity and success. Eminent teachers are engaged, and from the list of classes on the prospectus sent (marked B.) it will be seen that instruction is given in almost all branches of education that are suitable for that class for which the institution was founded. The Birkbeck schools for children which were started by the institution are still in existence, and one is held at the present time in the daytime in the theatre and some of the rooms of the institution. For last report, see paper marked C. None of the earliest reports are in existence.

LOYAL BUD FRIENDLY SOC. -

I have taken the liberty of having the statistics and last year's balance sheet printed, and which is attached. The progress of the society has been of a steady increasing yearly prosperity. I regret much that I am not able to give a tabular statement throughout, through the mislaying of the documents, balance sheets, &c. See statement and balance sheet annexed.

The Society was founded on the 28th of January 1845, by a band of 41 working men, under great difficulty and in the face of much prejudice and opposition, the object was to assist each other in the season of sickness and death. In consequence of the mislaying of some of the old account books, the following is the best information of the earliest operations.

	£	*s.*	*d.*
The 1st audit, 22nd April 1845, the total capital stood at - -	53	5	1½
The 2nd ditto. 22nd July - -	95	4	5
„ 20th ditto, 1847 -	255	16	5
„ 21st ditto, 1848 -	332	2	7

The following table will give a better account, viz. from the year 1853 to 1866, in compliance with statement annually made to J. Tidd Pratt, Esq., Re

Names.

BUD FRIENDLY SOC.—*cont.*

gistrar to the Friendly Societies, showing the steady progress and developement of the Society and its increasing prosperity.

Year.	No. of Members.	No. of Days' Sickness.	Deaths of Members.	Deaths of Members' Wives.	Funeral Donation.	No. of Members sick in the Year.	Sick Pay.	Capital of the Lodge.
					£		£ s. d.	£ s. d.
1853	146	891	—	1	9	27	88 12 0	672 17 4½
1854	147	687	2	1	45	28	68 14 0	769 19 2½
1855	168	931	—	—	—	40	86 6 0	902 6 8
1856	192	935	1	1	27	41	83 4 0	1,032 16 8
1857	203	912	3	1	63	53	105 18 0	1,158 17 0
1858	224	1,046	1	—	18	58	104 12 0	1,283 9 2½
1859	241	1,188	5	4	126	64	118 16 0	1,427 8 2½
1860	268	828	1	1	27	57	82 16 0	1,686 19 8
1861	273	1,297	1	6	72	76	129 14 0	1,864 2 0
1862	271	1,189	1	2	36	69	118 18 0	2,099 5 2
1863	271	1,412	3	4	90	71	141 4 0	2,296 5 6
1864	278	1,615	2	—	36	84	161 10 0	2,511 6 6½
1865	290	1,732	2	3	63	74	173 4 0	2,684 4 7½
1866	311	1,645	2	2	54	84	164 10 8	2,978 19 0

GENERAL STATEMENT of the Funds and Effects of the Bud of Hope Friendly Society, held at High Wycombe in the county of Bucks, from 1st January to 31st December 1866, as sent to the Registrar of Friendly Societies.

1st January to 31st December 1866.

Receipts.

Dr.	£	s.	d.
To balance in Treasurer's hands	95	7	5½
Fines	5	15	0
Entrance Fees	10	5	0
Members Contributions	347	2	0
Ditto for sums at Death	27	15	6
Ditto for expenses of Management	78	5	6
Interest received during the Year	92	7	0
Contributions on account of various Lodges	11	3	5
Sick Pay repaid on account of ditto	15	14	11
Income Tax returned	2	17	8
From District	54	0	0
	£740	13	5½

1st January to 31st December 1866.

Disbursements.

Cr.	£	s	d.
Stationery and Printing	8	10	0
Surgeon's Salary	44	0	0
Secretary's Salary	12	16	3
Sundry expenses of Management	29	16	7½
District Funeral Levies	83	5	1
Sick Allowance to Members of other Lodges	16	4	11
Ditto to 84 Members of this Society	164	10	8

Names.

LOYAL BUD FRIENDLY SOC.—*cont.*

	£	s.	d.
Sums paid at the Death of two Members of ditto	36	0	0
Ditto two Members' wives of ditto	18	0	0
Investments made during the Year	177	4	9
Balance in Treasurer's hands	67	2	3
„ Secretary's hands	83	2	11
	£740	13	5½

Number of Members, 31st December 1866	311
Number of Members Sick since 31st December 1865	84
Total day's sickness	1,645
Number of Members died	2
Ditto wives of Members	2

STATEMENT of the Funds of the Society, and where invested, and how disposed of.
1st January to 31st December 1866.

	£	s.	d.
By money in Savings' Bank	77	11	7
„ the Bank of England	2,751	2	3
„ Secretary's hands	83	2	11
„ Treasurer's ditto	67	2	3
	£2,978	19	0

WILLIAM HENRY HAYDEN, GEORGE CHURCH, } Trustees.
FREDERICK MANNING, Secretary.

LOYAL ORWELL LODGE - -
PHILANTHROPIC SOCIETY -
SLOUGH MECHANICS' INST. -
SONS OF THE CLERGY - -

See Papers Nos. 1, 2, and 3, enclosed herewith.
See Appendix page 410.
Reports, balance sheets, and rules appended.

The Society held its first meeting in 1655, and was incorporated by Royal Charter in 1678 under the title of the Charity for the Relief of poor Widows and Children of Clergymen. The founders were sons of clergymen, and hence the Society became, and is now, commonly known as the Corporation of the Sons of the Clergy.

Its first efforts were to relieve by grants of money poor widows and children of clergymen of England and Wales; but for a very long period the Corporation has assisted—

Living clergymen of all shades of theological opinion within the Church of England; men of good character, but possessing very small incomes, many without any means; the aged, sick, and incapacitated; those with large families, or impoverished by unavoidable causes.

Widows of clergymen, by donations and life-pensions.

Unmarried daughters of clergymen, by donations and life pensions; the pensions to daughters being mostly restricted to those who by age or sickness are unable to earn their own maintenance.

The children of living or deceased clergymen, by grants for their education, or apprenticeship, or outfits.

About 1,297 individuals are thus aided annually under these four heads, and the total sum given to them is about, per annum, 19,000*l.*

Names.	
Sons of the Clergy—*cont.*	The course of the Corporation has been progressive throughout its long career, latterly especially. For a few years prior to 1849 the sum annually given away was about 13,000*l.*, being 5,000*l.* a year less than now, If the present management be continued the progress of the Society cannot fail to continue.
Tyne Docks Inst. - -	"Northern Daily Express," Newcastle, Wednesday, January 2nd, 1867.—Tyne Dock Institutions.—Last night the annual soirée of the Tyne Docks Institutions was held in the Institute Rooms. Early in the evening about 300 persons partook of tea. Subsequently a public meeting was held in the same room, at which Mr. Robert Ingham, M.P. for South Shields presided. Mr. J. H. Jackson read the report, of which the following is an abstract:—The French Government having offered an order of reward to districts in which the greatest harmony and co-operation for the moral and intellectual welfare of the working classes obtained, this Institute had made application for the order. The workmen of Tyne Dock, mostly employed by the North-eastern Railway, had formed the institution mainly by their own endeavours. The Mechanics' Institute and Reading Room were established in 1859. The number of members averaged about 100. In the library were about 500 volumes. There were classes for reading, writing, and arithmetic, during the last session, as well as several instructive lectures. The Temperance Society was also commenced in 1859, and now had 280 members on the books. The Penny Savings Bank was established in 1859, and the transactions from that time up to the present was 1,406*l.* 15*s.* 7*d.*, while 1,081*l.* 0*s.* 8*d.* had been withdrawn. During the last year there had been 1,493 deposits, amounting to 139*l.* 15*s.* 5*d.*; 180 withdrawals, and 84 new accounts opened. It was necessary to mention that many small sums had been withdrawn from the bank in order to invest them at a higher rate of interest in the Building Society. In 1864 a branch of the British and Foreign Bible Society was established in connection with the society, which had been the means of doing much good. In 1865 a Building Society was organized, since which time 846 shares had been taken up, representing a total sum of 50,760*l.* A day school was opened in 1866, and the number of children admitted had been 272. It had been proposed to build larger accommodation for their school, at an estimated cost of 1,800*l.* Towards this the workmen of Tyne Docks have promised 300*l.* The shareholders of the North-eastern Railway Co. have promised a similar sum, other friends of education, 500*l.* and the railway company had granted a site for the buildings.
Ulster Deaf, Dumb, &c. Soc.	In the year 1831 several benevolent gentlemen in Belfast became deeply impressed with the necessity of providing a proper education for the deaf and dumb, and the blind poor. Upwards of 30 of these were in the town and its vicinity. On the 17th May 1831 a day school was opened in the deacons' room of an independent chapel, Donegall Street, Belfast. In 1832 eight children were in attendance. In 1833 there were only seven. It was soon found that a day

Names.

ULSTER DEAF, DUMB, &c. SOC. —*cont.*

school was totally unfit to meet the necessities of the case, and that while the mutes and blind of Belfast and its immediate neighbourhood had the means of instruction provided for them, the wants of the remaining parts of the province of Ulster were inadequately provided for. That there were hundreds of these forlorn and most afflicted classes scattered throughout the province no one doubted, but as there were no statistics taken of their numbers their real condition was comparatively unknown. Several parents of these afflicted persons, hearing of the boon offered to the deaf and dumb, and blind of Belfast, anxiously desired admission for their children to the benefits of the day school, but the distance of the applicants from Belfast, and other circumstances, impressed upon the committee the great necessity of opening a boarding establishment instead of a day school, the advantages of the former over the latter being even then fully recognized both in England and Scotland. In 1835 a building was erected in College Street, Belfast, and fitted up as an institution for the deaf and dumb, and the blind, in which the pupils were to be boarded, lodged, and educated. At this date 72*l.* formed the total annual revenue of this infant establishment. Even this small sum was an improvement on the income received during the first two years of its existence, which amounted only to 36*l.* By means of deputations sent throughout Ulster, the claims of the society became known, and were also largely appreciated by the Christian public of the province. The funds were augmented, and the pupils gradually increased, till in the year 1844 there were 60 pupils on the roll, and the annual income of the Institution amounted to 1,330*l.* The building in College Street was now found to be too small, and as many other applications were being made for the admission of pupils, the directors had for some time contemplated the erection of a larger Institution, and ultimately made an appeal to the Christian people of Ulster to contribute funds for the raising of a new and more extensive building. The appeal was not made in vain; Ulster nobly responded to the invitation, and in 1845 the present Institution was opened for the reception of pupils at a cost of 14,000*l.* Since that period up to the present time the Ulster Society has been making steady progress in usefulness. The building was originally designed to accommodate 100 boarder pupils, but from the Government census papers of 1851 and 1861 the numbers of deaf and dumb and blind have become better known, their condition more deeply commiserated, so that now there are no fewer than 140 pupils in the establishment, which has been proportionately enlarged for their reception. Private benevolence has hitherto upheld and advanced this important enterprise. The Report of the Institution for 1865 shows an income of 2,197*l.* There are 141 auxiliaries or branch associations now established throughout the province of Ulster, each having its separate staff of office-bearers and collectors. These auxiliaries are annually visited by a deputation of the pupils, and a

Names.

ULSTER DEAF, DUMB, &c. SOC. *cont.*

clergyman, accompanied by one of the teachers, to illustrate the good results of the system of training pursued in the Institution, and as an incentive to further exertions on the part of those friends, who, though residing at a considerable distance from the Institution, yet aid it by their hearty co-operation. Large as has been the success of the Society during the past in ameliorating the sad privations of the uneducated deaf and dumb and blind, yet there remains much more to be accomplished. There are still many deaf mutes in Ulster living in the region and shadow of mental and spiritual death. There are still many blind children requiring the Light of Truth to be imparted to their dark minds. To overtake the whole field of duty more funds must be forthcoming, and when the revenue of the Institution, from whatever source derived, shall be sufficiently, increased to bring within its pale all the deaf and dumb and blind children of Ulster, not only will this be effected, but a great improvement will then be possible, namely, the providing of a much more extensive course of instruction than is now practicable.

According to the census of 1861, there were in Ireland 2,685 deaf-mutes who had passed the age of education, and who were in grossest ignorance of all that concerned them as creatures of immortality; and there were 930 between 5 and 14 years of age waiting, perhaps many of them in vain, till Christian charity should provide the means for their education.

In America and in the Continental Kingdoms the Governments provide for the education of their deaf and dumb, and blind.

The British Government in the Poor Law Amendment Act for Ireland, 6 & 7 Vict. chap. 92. sect. 14, made the following provision:—

"Be it enacted, that the guardians of any union may send any destitute poor deaf and dumb or blind child, under the age of eighteen, to any institution for the maintenance of the deaf and dumb, or blind, which may be approved of by the Commissioners, with the consent of the parents or guardians of such child, and may pay the expense of its maintenance there out of the rates raised under the authority of the said first-recited act."

This act has been in force since 1843, but the evident intention of the Legislature has been frustrated, and it has not been made available as was expected for the education of the deaf and dumb, and blind. It is known that, in many cases, boards of guardians have refused to grant this aid when asked, and all that the forty-four Poor Law Unions in Ulster are now contributing to this Institution is 12*l.* per annum for one pupil.

The friends of the deaf and dumb, and the blind have felt it was a sad oversight on the part of our senators that *must* was not substituted for *may* in this enactment.

The same view has been taken by the Census Commissioners. In their report for Ireland in 1861, they say, "We would suggest for the consideration

Names.	
Ulster Deaf, Dumb, &c. Soc. —*cont.*	" of Her Majesty's Government the advisableness " of rendering it *compulsory* on boards of guardians " to send for instruction to suitable institutions such " deaf and dumb, or blind persons under the age of " 18 as may be in their unions, and who now come " under the provisions of the Poor Law Act of " 6 & 7 Vict. chap. 92. sect. 14," then, when this or some such provision has been made, and not till then, shall these 930 deaf-mute children be brought within the reach of instruction; sufficient time be given for the full development of their intellects; the best teaching power attainable provided, and all that man can accomplish be secured for these afflicted children. First and Second Reports of the Society not now available. Other reports are forwarded.
Working Women's College	The college opened in October 1864 without its promoters having any reliable means of knowing how far their plans and efforts would be seconded by the classes of women for whom they were intended. 115 women joined the college during the first term; 224, as will be seen in the accompanying report, were in attendance on the classes in the term ending Christmas 1866. Though the students have peculiar difficulties to contend with in the late and irregular hours of London work and the many domestic claims upon their time and strength, their earnestness and desire to improve serve very much to counterbalance these disadvantages, and they succeed in accomplishing much valuable work. See Reports.

70. In what respects does the society fulfil the conditions on which a claim can be submitted on its behalf to the international jury, in accordance with the principles laid down at their first meeting.

Aberdeen Fem. Sch. of Ind.	That the secretary and treasurer, along with the directresses, have acted all along without any monetary payment. That at all their meetings the utmost harmony has prevailed, and that incalculable good has been done, and it is hoped may still be done, to the otherwise neglected children under their charge; and that marked improvements have been effected in the houses of many of their parents, which may be ascribed to the Mothers' and Daughters' Meetings and daily visitations.
Ballinasloe Dist. Agric. Soc.	1st. The society is conducted in a spirit of charity and beneficence. 2nd. The initiative was free and spontaneous, and independent of any legislative enactments. 3rd. It has proved to be compatible with sustained progress and prosperity. 4th. With the agricultural and industrial progress referable to the action of the society, there has been a growth of harmony and happiness between the upper and lower classes, as well as of co-operative union among the members of the society itself,

Names.	
Ballinasloe Dist. Agric. Soc. —*cont.*	and the improvements it has introduced have been in antagonism with previously existing prejudices, as well as the means of removing much suffering and misery that was before the lot of the peasantry.
Board of Arbitration, &c. -	In having developed a spirit of harmony among persons co-operating in the same work and in having improved the material and moral well-being of the workman.
Cripples' Home - - -	Until this home was established nothing had been attempted for the industrial training of the 39,000 female cripples of England, and it needs funds to carry out its work efficiently.
East London Refuge, &c. -	A claim to be admitted is founded on the fact of a great work being performed by one person left almost entirely alone in this work of labour and love, and the amount of good resulting from it.
Birkbeck Inst. - - -	According to 5th clause.
Loyal Bud Friendly Soc. -	See Form 56, p. 1; the latter part of 3rd principles laid down, viz., praiseworthy, with sustained and progressive prosperity.
Loyal Orwell Lodge - -	Having succeeded when others had failed, in forming a branch society, admitted to be one of if not the best in the kingdom, further shown on Papers No. 1, 2, & 3, with others enclosed herewith.
Philanthropic Society -	See Appendix page 410.
Slough Mechanics Inst -	In accordance with the principles of the first meeting of the International Jury, we can testify that the facts in the appended report "have been the "consequence of a free and spontaneous initiative, "and not of legislative enactment." The remarks of the 5th clause seem fairly applicable to the management and intentions of the Slough Mechanics' Institution, having founded durable and prosperous institutions, &c., if this at all applies to having enabled working men to fulfil appointments of a superior grade with entire satisfaction to their employers.
Sons of the Clergy - -	The Society is a striking proof of "the spirit of "charity and beneficence" (*vide* first principle). "The facts adduced have been the consequence of "a free and spontaneous initiation, and not of "legislative enactment" (second principle). "The "work is not only praiseworthy, but is compatible "with sustained and progressive prosperity" (third principle). The Society has founded "a durable "and prosperous institution, contributing to the "propagation of good feeling and happiness" (fifth principle).
	*** The annual report for 1865 is sent herewith, but the Corporation possesses no reports of the early years of its existence two centuries ago; the proceedings, however, have been duly recorded in the minute books, which have all been carefully preserved.
Tyne Docks Inst. - - -	The united committees think they have a claim for having founded durable and prosperous institutions, contributing to the propagation of good feeling and happiness to the workmen and inhabitants of the locality.
Ulster Deaf, Dumb, &c. Soc.	The Ulster Society fulfils the conditions on which a claim can be submitted on its behalf to the International Jury, because of its spirit of charity and beneficence, No. 56. Query 1st. Because "The facts adduced have been the consequence of a free

Names.	
Ulster, Deaf, Dumb, &c. Soc. —*cont.*	and spontaneous initiative, and not of legislative enactment." 2nd. Because "the work" has been "compatible with sustained and progressive prosperity." 3rd. Because "the Jury has not thought it right to exclude from the competition individuals who have founded durable and prosperous Institutions, contributing to the propagation of good feeling and happiness." 5th. Because "the origin, operation, and support of the Society appear to furnish a creditable example and illustration of all those points of merit, prosecuted to a successful issue through difficulties."
Working Women's College	The Working Women's College fulfils "the "conditions on which a claim can be submitted on "its behalf to the International Jury," I venture to submit, by being "the consequence of a free and "spontaneous initiative, and not of legislative en- "actments;" 2ndly, as it attempts to provide in some degree for the better and continued education of working women its own development contains the germs of "sustained and progressive prosperity," as the better educated women become, the more education they will desire for themselvss and their children. 3rdly, in its association of the educated with the less educated, of classes otherwise separated by social position and habits of life and thought, I submit, it contributes "to the propagation of good feeling and "happiness."

71. What are the qualifications for admission to the society? or for employment by it?

Ballinasloe Dist. Agric. Soc.	The qualifications for admission to the society are election and the payment of a subscription.
East London Refuge, &c. -	The boys are recommended by the subscribers the committee, superintendents of ragged schools, or by warrants from the police courts.
Birkbeck Inst. - - -	Payment of subscription.
Loyal Bud Friendly Soc. -	Every person of known good character, not under 18 years, and not over 44, untainted with crime; subject to medical examination; whose earnings are not less than 15*s.* per week.
Slough Mechanics' Inst. -	Persons of respectability are admitted on the recommendation of a member, viz.:—gentlemen, who pay 1*l.* 1*s.* per annum; tradesmen, 12*s.* per annum; tradesmen's assistants and artizans, 8*s.* per annum; youths under the age of 18 pay 4*s.* per annum.
Ulster Deaf, Dumb, &c. Soc.	If deaf and dumb, or blind, between 8 and 13 years of age, physically healthy, and fit to receive instruction. The committee have power, under certain circumstances, to admit pupils under 8 and over 13 years of age.

72. Of how many members does the society consist?

Ballinasloe Dist. Agric. Soc.	At the close of 1866 there were 196 members.
Cripples' Home - - -	One hundred.
East London Refuge, &c. -	Twelve members of committee.
Birkbeck Inst. - - -	From last report: 475 members of the institution; 531 members of its classes alone; total, 1,006.

Names.	
Loyal Bud Friendly Soc. -	311.
Slough Mechanics' Inst. -	160.
Ulster Deaf, Dumb, &c. Soc.	See Report for 1865, Rule III., as follows:—"III. The Society shall consist of members for life, and annual members. Every donor of 10*l.* at one time, and the executors of such persons as shall bequeath 100*l.* or upwards, shall be life members, and every contributor of 1*l.*, or collector of 3*l.* per annum, an annual member of the Society; likewise any clergyman who shall take up an annual collection for the society."

73. How many workmen, or women, are employed by it?

Ballinasloe Dist. Agric. Soc.	The society does not give employment.
East London Refuge, &c. -	Ninety boys.
Birkbeck Inst. - - -	None.

74. Have the workmen a share in the profits?

East London Refuge, &c. -	Yes, about one tenth.
Birkbeck Inst. - - -	See 73.
Loyal Orwell Lodge - -	Yes; in accordance with periodical valuations. See Papers No. 4 and 5, enclosed herewith.

75. Are there any sources of profit beside the annual dividend? e.g., by shop tickets or other advantages of a similar kind.

Birkbeck Inst. - - -	See 73.
Loyal Bud Friendly Soc. -	The sources of profit, in addition to the members' contributions, are fines, a levy on a death of every member and his wife, and the interest arising from the investment of the funds.

76. By whom is the scale of wages regulated?

East London Refuge, &c. -	By the manager.
Birkbeck Inst. - - -	See 73.
Loyal Bud Friendly Soc. -	The scale of contributions are regulated by the grand annual moveable committee of the order of which our lodge is a section, whose laws it obeys.

77. By whom, and in what manner, are disputes as to wages, or other general questions affecting the well-being of the society, settled?

Ballinasloe Dist. Agric. Soc.	All disputes affecting the society are settled by the managing committee.
Cripples' Home - - -	By the ladies' committee and the medical officers.

Names.	
East London Refuge, &c. -	By the manager.
Birkbeck Inst. - - -	See 73.
Loyal Bud Friendly Soc. -	All disputes are settled by an appeal to the lodge, district committee, or the Grand Master and board of directors, whose decision is final.
Loyal Orwell Lodge - -	According to the "Rules" of the lodge, district and order. *See* 28th rule in Orwell Lodge Laws, rules herewith enclosed.

78. How far are agricultural and manufacturing pursuits combined among members of the society?

Ballinasloe Dist. Agric. Soc.	The members of the society apply themselves to the encouragement of both.
Cripples' Home - - -	About 74 cripples in the manufacturing department, and 26 in the refuge for domestic girls.
Birkbeck Inst - - -	See 73.
Loyal Bud Friendly Soc. -	I should say that above two-thirds of the members of the club are of manufacturing pursuits.
Loyal Orwell Lodge - -	Nearly all the members are mechanics.

79. Has the society been the means of obtaining for its members, or those connected with it, the ownership of a house, or of rural premises?

Cripples' Home - - -	No; but the trade of straw bonnet making is taught them to enable them to earn their own livelihood when they leave the institution.
Loyal Bud Friendly Soc. -	No; we are not allowed by Government to invest our funds in the purchase of property, or advance money for members to do so, though many of our members have acquired property by their prudent, industrious habits, unaided by the society.
Loyal Orwell Lodge - -	Not directly, but I have no doubt that indirectly many, having cultivated the provident habits recommended by the "Rules" and fostered by the society, have thereby obtained houses and land.

80. Are there any relief funds, asylums, or life assurances connected with the society? and is any provision secured in case of future need?

Ballinasloe Dist. Agric. Soc.	None.
Board of Arbitration, &c. -	No.
Cripples' Home - - -	The committee purpose supporting those who are too helpless to be sent out in their own manufactory; but large increased funds will be required for the purpose, as many are only able to crawl on the ground.

Names.	
Birkbeck Inst. - - -	No.
Loyal Bud Friendly Soc. -	There is no special fund for the purpose, but a person, when not able to do full work, and ailing, would be allowed 4*s.* per week from the funds, and allowed to earn not more than 8*s.* per week. See 48th rule of the lodge.
Loyal Orwell Lodge - -	"Sick and Funeral Funds," as shown in the accompanying "Rules."
Sons of the Clergy - -	The whole income of the Society is a relief fund. The number of widows and aged unmarried daughters who are life pensioners is 712. The other persons assisted receive pecuniary grants for the time being, and some of these are applied for life assurance.

Copies of the Signatures of Magistrates and other Persons who certify that they are well informed of the Management of the Establishment against which their Names stand, and that they believe the foregoing Statements to be true.

Abbotts Ann Prov. Club -	Charles Dodson, J.P. for the county of Southampton.
	Thomas West, jr., J.P. for the county of Southampton.
	W. Capes, Curate of Abbotts Ann.
Aberdeen Fem. Sch. of Ind.	Alex. Nicol, Lord Provost and Chief Magistrate of the city of Aberdeen.
	Alex. W. Brown, Munster, East Parish, Aberdeen.
Ballinasloe Dist. Agric. Soc.	Not signed.
Bianconi, C. (Ireland) -	Morgan John O'Connell, J.P.
	Wm. Carson, Arotmagle (?) Vicarage.
Board of Arbitration, &c. -	Not signed.
Sons of the Clergy - -	W. T. Copeland, Senior Alderman of London and Deputy Lieutenant of the county of Stafford.
	J. W. Vivian, D.D., Rector of St. Peter le Poor in the city of London, and Priest in ordinary of Her Majesty's Chapels Royal.
	Henry Pownall, J.P., chairman of the Magistrates for the county of Middlesex and city of Westminster.
Cripples' Home - - -	R. P. Tyrwhitt, Magistrate, Police Court, Marlborough Street.
	J. W. Reeve, Minister of Portman Chapel, Marylebone.
East London Refuge, &c. -	Brooke Lambert, Incumbent of St. Mark's, Whitechapel.
	H. S. Mitchell, Vestry Clerk of Whitechapel.
	Wm. H. Bodkin, Assistant Judge, Middlesex.
Grantham Medical Club -	J. F. Burbidge, jr., Mayor.
	Samuel Ridge.
Jackson, E. - - - -	John Loft, Mayor of Hull.
	Anthony Bannister, J.P., and Alderman of Hull.
	Thomas Cook, Chief Constable, Hull.
Keevil Dist. Hort. Society	Wm. W. Pooke, Vicar of Keevil.
	Thomas H. Tait, Rector of Hilperton, and J.P. for the county of Wilts.
Birkbeck Inst. - - -	J. Duke, Alderman of London.
	J. Musgrove, Bart., Alderman of London.

Names.	
Loyal Bud Friendly Soc. -	Robert Wheeler, Mayor. H. Paddon, Vicar. Wm. Rose, J.P.
Loyal Orwell Lodge - -	Robert C. Ransome, Mayor of Ipswich. John C. Cobbold, M.P., Magistrate of the county of Suffolk. Thomas D. Burroughes, Magistrate for the borough of Ipswich.
Penny Readings, Ipswich -	John C. Cobbold, M.P., Magistrate for the county of Suffolk. J. Allen Ransome, Alderman of Ipswich.
Philanthropic Society -	Philip Hanbury, J.P. for the county of Surrey. Henry Gosse, Incumbent of Redhill.
Ragged School Shoebl. Soc.	W. Weldon Champneys, Vicar of St. Pancras, and Canon Residentiary of St. Paul's. Henry Pownall, J.P., chairman of the Magistrates of the county of Middlesex and city and liberty of Westminster.
R. Cornwall Polytech. Soc.	Jacob Olver, Magistrate for the borough of Falmouth. Thomas Webber, Mayor of Falmouth.
R. Soc. for Protec. Life fr. Fire	Benjamin S. Phillips, Alderman, late Lord Mayor. Robt. C. Hanbury, M.P. for Middlesex.
Sandwell Training Home -	Thomas Nolan, B.D., Incumbent of St. Peter's, Regent Square. Frederic Willett. T. Jesson, J.P. Richard Bagnell, J.P.
Slough Mechanics' Inst. -	George C. Robinson. Robt. B. Harvey, M.P. J. A. Cree, B.D.
Tyne Docks Inst. - -	Henry Fleetwood Nash. George Potts, Alderman and J.P. Terrot Glover, Alderman and J.P. Wm. James, Alderman. Thos. Salmon, Town Clerk, South Shields.
Ulster Deaf, Dumb, &c. Soc.	David Taylor, J.P., Mayor. Leonard Cary, Kt., J.P.
Working Women's College	Thomas Hughes, M.P. for Lambeth. John Back, Rector of St. George the Martyr, Holborn.

23.

VI.—MISCELLANEOUS INSTITUTIONS.

APPENDIX GIVING AN ACCOUNT OF THE SUPPLEMENTARY INFORMATION SENT IN WITH EACH RETURN.

Names.	
Abbotts Ann Provident Benefit Club.	1. Annual statements of accounts of this club, and of different societies on the same principle adapted and taken from this, showing the annual increase in prosperity. 2. Wilts Friendly Society. Statement of accounts for year ending 31st December 1865.
Aberdeen Female School of Industry	1. Third report of committee. 2. Rules. 3. Reports of school almost from its commencement.
Ballinasloe District Agricultural Society.	1. Rules and regulations of society. 2. Annual reports.
Bianconi, C., Owner of the Cars in Ireland.	1. Paper read by Mr. Bianconi on the car travelling in Ireland at the Social Science Congress held in Dublin 1861. 2. Do. do. before the British Association Meetings at Cork in 1843, and Dublin 1857. 3. Extract from the "Times," August 23, 1861.
Board of Arbitration and Conciliation of the Hosiery and Glove Trades.	1. Account of origin and progress of the Board.

An Account of the Origin and Progress of the Board of Arbitration and Conciliation of the Hosiery and Glove Trades, of which Nottingham is the centre.

The Hosiery Trade, for a period of two centuries, has been centred in the counties of Nottingham, Leicester, and Derby. Leicester has long been the centre of the woollen branch, as Nottingham is of the cotton, silk, and merino branches, which form by far the largest portion of the trade.

These last employ, according to Mr. Felkin's estimate, from 20,000 to 25,000 workmen in hand-frames (not reckoning the frames worked by steam power), spread over the counties of Nottingham, Derby, and the northern part of Leicestershire.

The wages of these hand framework-knitters are regulated by the Board of Arbitration and Conciliation, and all questions arising from wages are referred to it for settlement.

There are few trades in the United Kingdom in which there has existed so much agitation and irritation as in this. For a century past strikes have been frequent and protracted, and in some instances have led to disastrous and even fatal consequences. Luddism was an outgrowth of the opposition to improved machinery, which the framework-knitters believed tended to reduce wages, and was not suppressed until several of its unhappy leaders suffered the punishment of death.

Throughout the present century down to the year 1860, strikes and lock-outs continued, and in years of brisk demand the trade was constantly subjected to loss and embarrassment consequent thereon. Trades' Unions have existed in every branch from about 1780 to the present day. The trade has always had to maintain a sharp competition with the foreigner, and especially against the cheap labour of Saxony. The system of employing middle-masters, which is a necessity of the trade, is liable to great abuse, and the cupidity of individual employers has at times given rise to great oppression; hence there has always been cause for irritation and dissension, and however unreasonablo the demands of the workmen may occasionally have been, their grievances have been many, and often calculated to embitter their minds against employers and their agents.

From these dissensions both the capitalist and the workmen have been frequent sufferers. Strikes have heretofore been usually resorted to by the workmen as their only means of redress. Frame breaking and burning in effigy were amongst their worst consequences in the first quarter of the

BOARD OF ARBITRATION—*cont.*

present century, and in modern times they have been embittered by gross personalities and inflammatory placards.

It was after a struggle of many weeks in the wide frame branch, in the autumn of 1860, that the Board of Arbitration and Conciliation originated. This was the third or fourth strike in the same branch during that year. The workmen struck for an advance of wages which their employers believed it would be impolitic to grant. The manufacturers met together to consider what steps should be taken to terminate the strike, and as the branches which were at work contributed to the support of the branch which refused to work, a lock-out was proposed. Before resorting to such an extreme course some manufacturers wished to try conciliatory measures, and it was resolved to invite the workmen to a conference. This invitation was cheerfully responded to, and a deputation of employers met the workmen in the Committee Room of the Chamber of Commerce, and after a protracted discussion, extending over several days, all difficulties were adjusted upon the express condition that a Board of Arbitration and Conciliation should be formed to prevent such calamitous disputes in the future.

The Board was immediately constituted, and met for the first time on the 3rd of December 1860, at the Committee Room of the Chamber of Commerce, where it continues to hold its meetings. At the outset it consisted of nine manufacturers chosen by a public meeting of their own body, and nine operatives selected by their respective Trades' Unions. Recently the number has been reduced to seven of each, but in all other respects the rules appended hereto continue to govern the board in its constitution and proceedings.

Questions of wages, the manner in which certain classes of work should be performed, and at the rate at which new classes should be paid, constantly occupy the attention of the board; but in addition other matters have arisen which have an important bearing on the material and moral interests of the workmen. One of the first subjects which demanded its attention was the abominable practice of the truck system. Some of the middle masters, whilst paying the regulation prices to their workmen, continued to keep them in a state of subjection by supplying them in advance with various articles of consumption, such as groceries, flour, cheese, bacon, &c. This, although in contravention of law, is sometimes very difficult of suppression, as it is not always done in a direct manner, but through some relative keeping a shop or store in which the employer possesses a secret interest. The goods supplied in this way are invariably charged much above the market value, besides being of inferior quality, and this is tantamount to a large reduction of wages, besides depriving the workman of his independence. The board advertised in the public newspapers their determination to stop the system by prosecuting the offenders, and by removing the machinery from any middle-master having recourse to such practices. A prosecution was instituted in one instance, and these measures had the effect of entirely stopping this oppressive system; if it is at all practised at present it is in such a secret and mitigated manner as not to be known by the board.

Another evil which reduced the purchasing value of the workman's earnings was the custom of paying them in the villages at late hours on Saturday night or early on Sunday morning, when no markets were available. This was also advertised in the newspapers as contrary to the wishes of the board, and individual employers guilty of the practice were written to in terms of remonstrance, and the evil thereby greatly checked, although, perhaps, not throughly eradicated. Deductions from earnings in excess of the customary charges of the trade have been steadily discountenanced and suppressed.

When the board was first founded it was generally considered a doubtful experiment. Several manufacturers were openly or covertly hostile to it; some regarded it as utopian and impracticable; others as likely to pry into the secrets of their business; and some as derogatory to their position and independence. These objections, however, have been steadily disappearing, until at the present time there are only two or three who refuse to acknowledge its decisions; but these are as effectually governed by its regulations as its warmest supporters; and the resolutions of the board have been generally loyally responded to by both masters and workmen.

The discussions at the board have always been conducted in the most friendly spirit and orderly manner. There has never been the slightest contention as to who should fill the offices of President or Vice-President. The workmen propose a manufacturer as President, and the manufacturers a workman as Vice-President. Whenever any breach of economic laws has been suggested by workmen outside the board, the operative delegates have always been the first to denounce it. The voices of reason and humanity have invariably had due weight with the delegates of both sections. And although both masters and workmen are accustomed to express their opinion of each other's individual and collective acts without the slightest reserve, no manufacturer or workman has ever been known to suffer from the free and honest expression of his views. One of the most evident results of this interchange of thought and opinion is, that the workman becomes better acquainted with the laws which govern trade and commerce, and with the influence of foreign competition; and the master learns how to appreciate the difficulties of the workman, and to sympathize more with his trials and struggles to maintain and improve his position.

It is important to notice that the success of this system is more attributable to its preventive than its curative character. Nine-tenths of the matters arising in the trade, that would, if allowed to go on, produce dissension and irritation, are never brought before the board, but are arranged by the interposition of the Committee of Enquiry, who by taking prompt action, and by exercising a spirit of justice and conciliation, succeed generally in arriving at

Names.

BOARD OF ARBITRATION—*cont.*

a satisfactory result; if unable to do so a reference is then made to the board.

During the disastrous years of 1863 and 1864 the trade suffered terribly from the American war. The manufacturers sustained great losses, and the workmen suffered severely from want of employment. For the greater portion of that period the board did not meet together, owing mainly to the fact that there was no occasion for its services, but the Committee of Inquiry continued its duties, and immediately trade revived the meetings of the board were alike called for by manufacturers and workmen, and the prices of labour were raised to a level corresponding to the demand.

The strikes of former periods not only entailed great sacrifice and suffering on the workmen while they lasted, but necessitated large contributions before and after to sustain them. The Trades' Unions sometimes levied as much as 1*s.* or 1*s.* 6*d.* per week from the scanty earnings of the stocking maker for many weeks in succession, and the clothing and furniture of scores of families disappeared during a prolonged strike. At present the contribution to the trades' unions during some years does not exceed that of a single week under the old system. And the manufacturers have ceased to regard them as their natural enemies.

The facts which the board points to as the best proofs of its success are:—that during the six years of its existence no strike or lock-out has taken place, no personal attacks have been made, and no inflammatory handbills circulated. Never in the history of the trade has there existed so much good feeling betwixt employers and employed as at the present moment. And during the past two years, wherein labour has been scarce and agitation on the quertion of wages prevalent throughout England, the manufacturers in this branch of industry have been able to accept contracts without apprehension, and execute them without delay.

Manufacturers.	*Workmen.*
A. J. MUNDELLA, President.	J. SAXTON, Vice-President.
T. HILL (Messrs. I. & R. Morley).	H. FARRANDS.
R. W. SMITH.	T. WILSON.
T. ASHWELL.	W. FOSTER.
J. H. LEE.	— STRAW.
T. BLACK (Messrs. Rogers & Co.)	G. KENDALL.
H. F. COX.	JOHN LAMB, Secretary.

2. Report for 1866.

REPORT of the BOARD of ARBITRATION and CONCILIATION for the Year 1866.

It affords the board much pleasure to report that the past year has been, on the whole, a prosperous one in the hoisery trade, employment in nearly all branches having been abundant.

The Board has met eight times during the year for general and special business. The Committee of Inquiry has also met on several occasions, and all matters in dispute which have been submitted to it have been speedily and amicably arranged.

The Board having now had six years' experience of the practical working of the system of arbitration, as opposed to strikes and lock-outs, is thoroughly convinced that in a free country where workmen and capitalists have a perfect right to enter into combinations, the simplest, most humane, and rational method of settling all disputes betwixt employer and employed is arbitration and conciliation.

The Board is strengthened in this conviction by the fact that during the past two years the demand for hosiery has been, in several branches, of an exceptional character and labour, in some departments unusually scarce; and notwithstanding the workmen have preserved their trades unions, by having a central authority to appeal to, composed equally of employers and employed, all questions calculated to produce irritation and lead to disputes have been promptly settled; all inequalities in the rates of wages have been adjusted; the manufacturer has been enabled to accept his contracts without apprehension and execute them without delay, and the rights of workmen have been jealously looked after and strictly preserved. Whereas in neighbouring counties and throughout the country a chronic warfare has existed betwixt labour and capital to the great injury of both, owing to the want of some court of appeal commanding alike the confidence of employers and employed.

It is with much satisfaction that the Board is able to report that at no previous period in the history of the hosiery trade has there existed such a cordial understanding betwixt employer and employed as at the opening of the present year, and the Board trusts that this may continue, believing that it is calculated to advance the interests of the trade, to improve the condition of the workmen, and to further the progress and well-being of the community.

Manufacturers.	*Workmen.*
A. J. MUNDELLA, President.	J. SAXTON, Vice-President.
T. HILL (Messrs. I. & R. Morley).	H. FARRANDS.
R. W. SMITH.	T. WILSON.
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J. H. LEE.	— STRAW.
T. BLACK (Messrs. Rogers & Co.)	G. KENDALL.
H. F. COX.	JOHN LAMB, Secretary.

Names.

BOARD OF ARBITRATION—*cont.*

3. Rules of the Board.

RULES of the BOARD of ARBITRATION and CONCILIATION of the HOSIERY and GLOVE TRADE.

President: MR. MUNDELLA.
Vice-President: MR. PICKARD.

Board:

MR. A. J. MUNDELLA.	MR. GEORGE KENDALL.
,, J. H. LEE.	,, WILLIAM PICKARD.
,, R. W. SMITH.	,, WILLIAM WHEATLEY.
,, J. S. WELLS.	,, GEORGE CAUNT.
,, R. MUSSON.	,, EDWARD ROSS.
,, JAMES WILSON.	,, EDWARD GAMBLE.
,, WILLIAM WILSON.	,, JOHN SPENCER.
,, G. CARVER.	,, JOHN PARSONS.
,, T. ASHWELL.	,, JOSEPH SAXTON.

Committee of Inquiry:

The PRESIDENT (ex officio).	MR. KENDALL.
MR. ASHWELL.	,, CAUNT.
,, LEE.	

Secretaries:

MR. PALMER. | MR. KENDALL.

RULES.

1. That a board of trade be formed, to be styled the "Board of Arbitration and Conciliation for the Hosiery and Glove Branches."

2. That the object of the said board shall be to arbitrate on any questions relating to wages that may be referred to it from time to time by employers or operatives, and by conciliatory means to interpose its influence to put an end to any disputes that may arise.

3. The board to consist of nine manufacturers and nine operatives, the operatives to be elected by a meeting of each branch of the trade, in the following proportion, viz.:—

Sutton Hose Branch - -	2 deputies.
Rotary ,, - -	1 deputy.
Drawers and Shirts Branch -	1 ,,
Circular ,, -	1 ,,
Rib top ,, -	1 ,,
Wide Half Hose ,, -	1 ,,
Wrought ,, -	1 ,,
Gloves ,, -	1 ,,

The manufacturers to be elected by a public meeting of their own body. The whole of the deputies to serve for one year, and to be eligible for re-election. The new council to be elected in the month of January in each year.

4. That each delegate attend the board with full powers from his own branch, and that the decision of the board shall be considered binding upon the branch he represents.

5. That a committee of inquiry, consisting of four members of the board, shall inquire into any cases referred to it by the secretaries, such committee to use its influence in the settlement of disputes. If unable amicably to adjust the business referred to it, it shall be remitted to the board for settlement; but in no case shall the committee make any award. The committee to be appointed annually.

6. That the board shall at its annual meeting elect a president, vice-president, and two secretaries, who shall continue in office one year, and be eligible for re election.

7. That the board shall meet for the transaction of business once a quarter, viz.:—the first Monday in January, April, July, and October; but on a requisition to the president, signed by three members of the board, specifying the nature of the business to be transacted, he shall within seven days convene a meeting of its members. The circular calling such meeting shall specify the nature of the business for consideration, provided that such business has first been submitted to the committee of inquiry, and left undecided by them.

8. That all complaints submitted to the board for their investigation be embodied in writing, stating as clearly as possible the nature of the grievance complained of. Such statement to be sent at least one week prior to the board meeting.

9. That the president shall preside over the meetings of the board, and in his absence the vice-president. In the absence of both president and vice-president a chairman shall be elected by the majority present. The chairman to have a vote; and in case of numbers being equal the chairman to have the casting vote.

10. That any expenses incurred by this board be borne equally by the operatives and employers.

11. That no alteration or addition be made to these rules except at a quarterly meeting or a special meeting convened for the purpose. Notice of any proposed alteration shall be given in writing one month previous to such meetings.

4. Seventh annual report of the council of the Chamber of Commerce, Nottingham.

5. Specimens of placards concerning strikes advertised by the workmen before the commencement of the Board.

Names.	
Cripples' Home -	1. Prospectus. 2. Treasurer's report. 3. Report 1864. 4. Notice for 1865. 5. Annual report for 1861 and 1857-58. 6. Copy of "A Plea for the Cripples' Home."
East London Refuge and Certified Industrial School.	1. The eleventh report of the East London Ragged School Shoeblack Society and Refuge.
Grantham Medical Club.	1. Memorandum on the rules of the club. The population of the Union is 30,000, living in 52 or 53 parishes. The number of recipient members during the last year ending 25th March 1866 was about 4,500, residing in 49 parishes of this Union, and their contributions amounted to 451*l.* 13*s.* 6*d.* The rate of payments made by them is as follows:—All persons at and above 16 years of age, 2*s.* 6*d.* per head; between 13 years and 16 years, 1*s.* 6*d.* per head, and 12 and under, 1*s.* per head. In some of the parishes nearly all the poor families are in the club. These funds are assisted by honorary contributions from each parish in proportion to the number of members. The amount contributed for the last year ending 25th March 1866 was 244*l.* 0*s.* 9*d.*, making a total of 695*l.* 14*s.* 3*d.* Of this sum the surgeons received 67*6l.* 6*s.* 8*d.*; management cost 16*l.* 7*s.* 8*d.*; leaving a balance in favour of the club in the year of 2*l.* 19*s.* 11*d.* The three central parishes of Grantham, Spittlegate, and Littly Gonerby, forming the parliamentary borough, do not add vere many to the number of recipient members, as there is in Grantham a very good and well-ordered dispensary, which the poor or workmen generally patronize. The institution is a very great benefit to the poor of the neighbourhood, inasmuch as they never are burdened with a great doctor's bill, and are more promptly attended when sickness overtakes them, and the rates are in some measure diminished by this provident mode of meeting untoward events. The surgeons also are certainly in no way injured by its operation, as they get paid punctually for all their poor patients. 2. Rules of the club. 3. Statement of accounts.
Jackson Enderby National Musical Contests.	1. Memoirs of the promoter, with historical and statistical summaries of the origin, development, and prosperity of the organization, with lists of members, their avocations, residences, &c. 2. Six volumes of programme regulations at musical meetings, &c.
Keevil District Horticultural Society.	1. First edition of rules and regulations.
Birkbeck Institution.	1. Prospectus of Birkbeck Freehold Land Society. 2. Prospectus of Birkbeck Permanent Benefit Building Society. 3. 172nd quarterly report of the institution, and balance sheet. 4. Rules and orders of institution. 5. Prospectus of institution.
Loyal Bud of Hope Friendly Society.	1. Rules of the society.
Loyal Orwell Lodge.	1. Statement concerning the Lodge. 2. Statistics concerning the progress of the Lodge, &c. 3. Prospectus. 4. Form of application for surplus, &c. 5. Second year's balance sheet. 6. Last year's ditto. 7. Twenty-third Annual Report.

Names	
Loyal Orwell Lodge—*cont.*	8. Propositions for bye-laws. 9. Rules and regulations of this Society of Odd Fellows. 10. First year's balance sheet and report. 11. Last quarter's balance sheet.
Penny Readings	1. Copy of "Penny Readings in Ipswich and elsewhere." 2. Extract from the Norwich Argus concerning the Penny Readings.
Philanthropic Society Farm School.	1. Extract, &c. The Philanthropic Society was instituted in 1788. The following respected names are to be found in the list of the founders of this charity:—The Duke of Leeds, first President of the Society, A.D. 1790; Lord Aylesford; Dr. Sims; S. Bosanquet, Esq.; John Harman, Esq.; George Holford, Esq., M.P.; J. J. Angerstein, Esq., M.P.; Colonel Harnage, and W. Houlston, Esq. The late Earl of Hardwicke; H.R.H. the late Duke of York, and the late Marquis of Westminster, were also among its earlier patrons. These benevolent, able, and enlightened men to whom it owes its foundation, were the first to deal with that social problem at once so important and so difficult, the right treatment of the youthful criminal. The increasing population of the metropolis was then adding sensibly to the numbers of vagrant and depraved children that had long infested its poorer and more crowded districts, and the transportation of the adult criminal then more regularly recognized as a feature of our criminal code, cast each year upon society many who were orphans in the most painful sense of the word, not only deprived of a parent's care but stained and disgraced by the shame of their parent's crime. With the hope of alleviating and in time, by their own efforts and the similar exertions which their example might stimulate in others, arresting this stream of juvenile crime, the Society's first founders opened an Asylum to receive and give industrial and religious training to young offenders themselves guilty of criminal practices, and the offspring of convicted felons left destitute by their parents' death or exile. With a remarkable prescience of the real solution of the difficult problem they undertook to solve, the Society began its operations by hiring three or four cottages in what was then the village of Hackney, and distributing the children whom they took under their care into little families of twelve in each of these humble dwellings, placing at the head of these as teachers and superintendents, a gardener, a tailor, and a shoemaker, with their wives; seeking to realize to the poor youthful objects of their charity the happiness and the benefits of a home. We see in this the very plan which has been since so admirably wrought out in Mr. Wichern's celebrated Rauhe Haus at Hamburg, and which reappears on a larger and more organized scale at Mettray and at the Farm School at Redhill, the parent of English reformatories. Unhappily—though perhaps under the circumstances unavoidably—the progress and development of this earlier form of the Philanthropic Society was interrupted and the plan of division into families with its simple machinery of domestic management was abandoned; an associated institution on a larger scale and with the more usual arrangement of a superintendent in chief and subordinate teachers and officers was adopted instead. A large plot of ground was first rented and afterwards purchased in St. George's Fields, a subsidiary establishment holding about forty being at the same time hired in Bermondsey as a "Reform" or preparatory school for those who had been convicted of crime and who appeared to require a more especial course of probation and corrective discipline; after some years this dependent establishment was removed to the site of the larger institution, which then for many years comprised within its area in St. George's Fields, a Probationary or Reform Department, a manufactory, into which the sons of convicts not themselves criminal were at once admitted and to which the inmates of the reform were transferred

Names.

PHILANTHROPIC SOCIETY FARM SCHOOL—*cont.*

when sufficiently improved to be entitled to its greater liberty and privileges, and a Female School for girls, from which after some years it was found necessary to exclude those who had been convicted of crime or who were tainted with vice, the daughters of convicts being alone received into it.

The society removed from Hackney to St. George's Fields in 1792, its professed objects being at that time "the promotion of "industry and the reform of the criminal poor." In the first eight years of its existence (down to 1796 inclusive) 314 cases were received by the society, and a report published at the end of that time showed how very successful had been its treatment of these neglected and vicious children.

In the year 1806 the society obtained from the Legislature the important benefit of a special Act of Incorporation sanctioning its objects and enabling its managers to conduct its affairs more efficiently. The preamble of the Act states that the charity had been "of considerable use and advantage to the public," and defines its objects to be "the protection of poor children and "the offspring of convicted felons, and the reformation of "children who have themselves been engaged in criminal prac-"tices." By the Act of Incorporation the management of the society was vested in a president, vice-presidents, treasurer, committee, &c., their proceedings being subject to the revision and control of the quarterly and other general meetings of the members.

The Police Committee of the House of Commons, who investigated the management of the institution in St. George's Fields in 1817, thus reported of it:—"Your committee wish to "direct the attention of the public to this excellent institution, "which is well deserving a more extended patronage, not only for "the end which the establishment has in view, but also for the "success which has attended its labours, arising from the excel-"lence of its regulations, and the frugal manner in which its "funds are administered."

In the year 1843 the annual report of the society stated that of the whole number received in the previous twenty-five years, the inquiries of the committee warranted them in believing that only "1 in 30 had turned aside to criminal courses with which nearly "all of them had been conversant, and from which the society "interposed to save them."

The schools continued at St. George's Fields in about the same form as at first established for nearly forty years; their usefulness being attested by the numbers (nearly 1,400) that were received and helped from its resources.

The increasing number of the class of juvenile delinquents, *i.e.* children themselves criminals, and the better provision made for the offspring of convicts in connexion with the alteration of the Poor Laws, induced the managers of the society in 1845 to abandon the female school and to chiefly concentrate their efforts on the reformation of criminal boys. The propriety of the determination is sufficiently shown by thfact that the metropolis and its surrounding district furnish about one-fourth of the boys who are committed annually to prison in all England and Wales, an amount of juvenile crime and vice that indeed calls for all the exertions and resources that can be enlisted in the work of its prevention and its cure.

In 1848, at the suggestion of the present treasurer of the society, William Gladstone, Esq., F.R.G.S., &c., a visit was paid to the French Institution established at Mettray, by a deputation from the committee attended by the resident chaplain, the Rev. Sydney Turner, M.A. The result of their inquiry into the working of Mettray was considered so thoroughly to prove the very successful character of the scheme introduced there by M. De Metz, that the managers of the Philanthropic Society were induced to attempt the formation of an English Mettray based on the same general principles of family organization with agriculture as the staple employment.

Accordingly a special committee was appointed, headed by the present president and treasurer, to superintend the execution of

Names.

PHILANTHROPIC SOCIETY FARM SCHOOL—*cont.*

this plan, which involved transferring the School of Reformation from London to a country situation, where the boys might be employed in out-door occupation rather than trades, &c., and so it was hoped more healthfully and cheaply trained and educated.

In less than nine months from the time of projecting this scheme 3,500*l.* were raised towards the necessary expenses of the undertaking, and Her Majesty and Prince Albert were so interested that His Royal Highness undertook to lay the first stone of the new institution, which he accordingly did at Redhill, April 30th, 1849, where the society had purchased a freehold estate with the proceeds of the sale of its London property and the liberal donations of its friends.

The establishment of the Farm School at Redhill being thus fairly undertaken, it was determined that the dress, food, and general treatment of the boys should be studiously plain and economical, and that care should be taken to secure a thoroughly effective system of instruction and discipline, by the employment of competent teachers who should make it their aim to induce habits of order, cleanliness, and neatness in every arrangement of the school. The promoters were desirous of establishing this new development of the society's work upon a broad basis, amid pleasant country scenes, where those who had been led astray through the temptation which beset them in town life might feel they had entered on a new phase of existence, and find encouragement on all sides to "turn over a new leaf." The wholesome effects both moral and physical of out-door farm employment under judicious oversight upon boys received from London and other large towns are continual matters of observation, and prove the soundness of this idea of the founders.

It is unnecessary to say that the undertaking presented many obstacles and that it has been carried out only by a resolute and persevering struggle with serious and most trying difficulties. There was indeed the model of Mettray to at once guide and encourage the attempt, but a very slight study of the state of the law relative to juvenile offenders in England and of the character, temper, habits and connexions of the English criminal boy showed that to merely imitate the French institution would be to little purpose, that the thing to be done was to discover how the essential principles of influence and management on which Mettray was founded could be adapted to and practically worked upon for English subjects.

Mettray has, in its whole constitution one peculiar feature: military organization. Each family is taught to consider itself a company of the regiment which is made up of the whole establishment, the monitors to each house are, so to speak, its corporals, the superintendent its lieutenant and captain, the director of the colony, so to speak, its colonel. Military discipline is assiduously though not harshly or unkindly enforced and practised: the boys march to their work, their exercise, their school, their play; a band of military music composed of the boys themselves assists in familiarising and in instilling the military idea; an exact obedience on the one hand, and a constant superintendence on the other are thus at once ensured. But singularly as this suits the French character, it is far from being natural or agreeable to the English, it would suit neither the feelings of the boys nor the opinions and sentiments of the visitors and supporters of the school; it can hardly be carried out without having a complete control over the lad such as the French law affords, and even then its adoption would probably result in England in reducing the boy to a mere mechanical agent, prevented from doing wrong while under discipline, but unable to govern or exert himself individually when released from it and sent out to struggle with the realities of life for himself.

On the other hand, to dispense with the exactness and unceasing supervision of military order, left us with very imperfect means of control and detention, and it seemed a most serious question whether the boys received into the farm school, most of them legally free to demand their discharge, and entitled to resist any attempt for their apprehension if they deserted from it, could be effectually

Names.

PHILANTHROPIC SOCIETY FARM SCHOOL—*cont.*

retained and kept together without so lax and indulgent a discipline as would leave them pretty well uncontrolled, and make the school eventually a nuisance and injury to the neighbourhood.

It was thought however that the difficulty could be overcome by employing four great instruments; Religious Influence, Personal kindness, Exact justice, and Constant employment, accompanied by small rewards in the nature of wages. The result has proved the soundness of this view. The free use and teaching of the Bible, with hymns and prayers in their own language, give the managers of reformatories in England a very powerful source of personal influence. Any one who visits the Farm school and sees the boys (now 270 in number) in chapel, or in their ordinary devotional exercise, must be struck at the individual attention and interest which they manifest. Kindness and patience constantly and assiduously exhibited in manner and action, attach the boy to his instructor, and make him feel him to be his friend. Justice appeals to that sense of right and wrong which is more or less in every English lad, and awakens the principle of Duty, which gradually leads him to choose the good and refuse the evil because he ought. Employment, not too severe, yet continuous and varied occupies the mind and distracts the thoughts from their former vicious and unworthy object, and when coupled with small wages or rewards, enlists the lad's self-interest as he gradually feels himself becoming the self-sustaining and independent man.

For further particulars of the society's work in London, *see* page 86, *et seq.*, of report for 1848 sent herewith. The average number in the institution for the seven years, ended 31st December 1847, was 117.

In the general course of its operations the Philanthropic rendered some valuable services to the Government by opening its reform schools in St. George's Fields to juvenile convicts from Millbank Penitentiary, the circumstances of whose cases seemed to require for them the operation of a school rather than that of a prison; and by receiving into its manufactory and apprenticing to masters or reconciling to their friends a considerable number of lads from Parkhurst Prison, who from age and physical considerations were unsuited to emigrate to the colonies.

To the society's efficiency and usefulness under this last head of its labours, Sir George Grey as then Secretary of State for the Home Department has kindly given his personal testimony, not only in his reference to the institution in the House of Commons, but by personally visiting the institution and contributing towards the founding of the Farm school.

M. de Metz visited the school in 1851, and in a report published shortly after his return to France says, "In a journey lately made "by us in England, we have been able personally to verify the "notable ameliorations effected at the colony of Red Hill, which, "indeed, we could not praise too much."

The society's report for 1854, stated that in the four years since the establishment of the Farm school 566 boys had been admitted, and 401 discharged:—of the admissions, 290 were under conditional pardon.

The committee go on to say:—

"On the whole, in spite of all the obstacles which the committee have had to struggle with, in the novelty of the system of the school, the incompleteness of its arrangements, the variety of age, condition, &c. of the boys, and the anomalous state of the laws relative to juvenile delinquency, full 70 per cent. of those received have been permanently and substantially improved by its agency."

For particulars of the Farm school arrangements, &c., see enclosed description published in 1865. Since then the numbers in the school have risen to the present standard of 270 which is as many as the present buildings will accommodate. As stated in page 24 of enclosed report for 1865 a piece of freehold land was added by purchase to the society's estate in 1865 which now comprises about 260 acres, and together with 40 acres held on lease is entirely cultivated by the boys in spade husbandry.

Names.

PHILANTHROPIC SOCIETY FARM SCHOOL—*cont.*

The Farm school is actually an association of five separate and distinct schools, each under a master appropriate to itself (whose wife superintends the domestic arrangements), and quite independent of all the other schools or houses. All work, however, on the same general system, following the same rules and acting on the same principles, and all responsible to the same central management. In this way it is sought to obtain the advantages of the more domestic character and direct intercourse of a small institution with the advantages of a large and comprehensive scheme of general management.

Anything like disunion or unfriendly rivalry is effectually prevented by the two following regulations:—

First.—The schoolmaster and the farm bailiff (who is mainly responsible for the outdoor employment of the boys) meet the chaplain and secretary every Monday to consult and confer on the state of the respective schools, reviewing the conduct of the boys during the past week, and making arrangements for that ensuing.

Second.—One evening of the week the same officers of the establishment meet at the chaplain's house for strictly religious exercise and communion, usually based on some portion of Scripture, submitted as a subject for consideration, mutual discussion and exhortation by each officer in turn.

These regulations, added to the daily meeting for divine service in the school chapel and other general gatherings such as are referred to in answer to Question 34, serve to keep up the idea of unity in one common work, and the interchange of thought and experience brings about a general goodwill, while it tends at the same time to increase the usefulness of those who are engaged in so important an undertaking.

While prompt and judicious punishment is invariably inflicted on known offenders in the school, to encourage the boys to habits of industry and good conduct, lists, similar to the "Tables d'honneur" of Mettray, are put up in each house every month, called the "Good-conduct Lists." On these lists are placed the names of such boys of the house as have passed through the month preceding without any complaint whatever, whether for negligence, misconduct, or disorder of any kind. The rule is, that no boy can have leave of absence to see his friends whose name is not on the list for at least two months preceding his application, that none can be recommended for emigration who are not on the list for at least three months. When a boy has continued on the "Good-conduct List" for six consecutive months he is entitled to a stripe or badge on his arm; and this is a necessary qualification for being entrusted off the farm on errands, &c., and gives the wearer an extra day's holiday, if he is allowed to visit his friends. When a boy has been on the list 10 months he is entitled to two stripes and corresponding privileges.

Besides the highly-valued position on the "Good-conduct List" the boys are allowed to earn small wages for their work—an ordinary farm boy receiving usually about 3*d.* per week, boys engaged in trades, brickmaking, &c., often earning considerably more. A boy who is three months on the "Good-conduct List" receives 1*d.* per week as honorary pay; eight months on the list 1½*d.* per week, and 12 months brings 2*d.* per week extra. Every schoolmaster receives from the office every Monday the sums earned in the past week by his boys, and acts as their banker, retaining charge of the various sums, and dispensing them to the boys for the purchase of permitted luxuries, or saving up the amount to be given to the boy on his discharge from the school. To fine a boy and so lessen his balance in his master's hands is a frequent and effectual mode of punishment for trifling offences.

From the establishment of the school at Redhill, in 1849, down to December 31st, 1865, there were admitted 1,819 boys; in the same period 1,579 were discharged, of whom 782 emigrated.

In the four years ended December 31st, 1865, 293 boys were discharged, of whom 113 emigrated. Direct communication is kept up with boys after their discharge, and satisfactory returns

Names.

PHILANTHROPIC SOCIETY FARM SCHOOL—*cont.*

of the circumstances and conduct of those 293, give the following results:—

83 per cent. unconvicted.
12¾ „ reconvicted.
2 „ unknown.

Together with the forms duly filled up with particulars of the Philanthropic Society and its work, the following papers, &c. are sent as giving further information:—

I. A copy of the Act of Incorporation.
II. Annual report for 1847 (published 1848) giving particulars of the London institution and its arrangements, as well as the laws and regulations of the society.
III. Annual report dated 1850, giving a sketch of the society's work in London, and the establishment of the Farm School at Redhill, with interesting particulars of the arrangements of both institutions.
IV. Annual report for 1865 (the last published) giving full accounts of boys admitted and discharged, and of the results of the school work, together with names of committee and other officers, as well as lists of subscribers, &c.
V. A sketch of the school and its work, printed in 1865.
VI. A pamphlet containing a paper by Baron Von Hohenbruck, read at Vienna, which at pages 7 to 10, gives an account of what the Baron saw here, and in other parts illustrates the difference in some respects and uniformity in others, which exist between Redhill and French schools.

In answer to question 70 it is submitted:—

I. That the arrangements of the Philanthropic are an instance in which "a spirit of mutual goodwill among all persons "co-operating in the same work" is successfully fostered, and that the result of that work has been to ensure in a high degree "the material, moral, and intellectual wel-"fare" of the inmates.
II. That "the facts adduced" in the society's reports as the result of its work "have been the consequence of a free and "spontaneous initiative, and not of legislative enactments." For although most of the society's present work is carried on under and in co-operation with the law, the same work was carried on similarly for at least 60 years before the law was in existence. In fact, the founders of the Philanthropic can justly claim to have brought the question of the treatment of juvenile delinquency before the public and the Governments of the country, and helped very considerably in obtaining the present legislative enactments, under which similar institutions have been established. Among the names of those who have been connected with the Philanthropic Society as presidents, vice-presidents, members of committee, and otherwise (including the founders of the Farm School) will be found many of the leading men of the past 80 years, who in connexion with this society have helped very materially to form the national opinion on the important subject of juvenile crime.
III. The Philanthropic Society can fairly claim the credit of the "introduction of improvements where antagonism and "suffering previously existed," and to have established with marked success "schools for the promotion of moral-"ity and intelligence," and have made satisfactory "efforts "to repress and prevent the spread of vicious habits," having "founded a durable and prosperous institution, "contributing to the propagation of good feeling and "happiness."

RAGGED SCHOOL SHOEBLACK SOCIETY.

1. Principal rules.

PRINCIPAL RULES of the RAGGED SCHOOL SHOEBLACK SOCIETY.

1. Every boy must bring in the whole of his earnings, and pay them to the superintendent. If he is found out keeping back any money he will be at once discharged and never employed again.

Names.

RAGGED SCHOOL SHOEBLACK SOCIETY —*cont.*

2. The earnings of each boy will be divided as follows. He will receive an allowance of sixpence for his day's work, and the remainder will be divided into three parts; one-third will be paid to the boy in addition to his allowance; one-third will be paid to the society; and the rest, including any odd money will go into the boy's bank.

3. The boys are allowed to draw money out of their banks, with the consent of the superintendents of their schools and of the committee, for clothes, but for no other purpose. When a boy leaves the society the money in his bank will not be paid to him or his parents, but the committee will see it laid out for his benefit, or else will pay it to the superintendent of his school for the same purpose.

4. The boys must be regular at their Sunday schools, and also at their week-evening schools on the nights when they are not kept at the society.

2. Statement.

STATEMENT.

The Ragged School Shoeblack Societies of London are seven in number. They employ destitute boys in cleaning boots in the streets, the boys receiving a certain share of their gross earnings in the manner hereafter explained.

The societies have been organized as distinct establishments, because of the great extent of London and the necessity of having local superintendence; but as they were founded with the same object, and are governed by the same general rules, they are closely allied: and by mutual arrangement each confines itself to its own district of London, so that there may be no antagonism or interference with each other's interests.

For the same reason they have agreed to unite in competing for the reward referred to in the accompanying form. The undersigned, who is the Honorary Secretary of the Central Society, has been deputed by all the societies to fill up the claim on their behalf.

The names, addresses, and material statistics of the several societies are given in the table at the end of this statement. The numbers given in the answers to the printed questions represent the aggregate numbers of the seven societies.*

The first society which was established was the Central Society (red uniform), which was devised by a few gentlemen who were interested in the education and reformation of the ragged boys of London. The first founders were the four gentlemen whose names are mentioned in the answer to the 5th question. The first boys (5 in number) were sent out to work on the 31st March 1851. This was the first effort made to organize the labour of boys employed in the streets, and was suggested by the expected increase of foreigners and other holiday makers in the metropolis at the time of the Great Exhibition of 1851.

The society gradually increased in numbers, and in 1854 two more of the societies mentioned in the table were instituted, and the rest in succeeding years.

The rules and mode of management of the various societies are in all material particulars the same, although there may be a variation in minor details. There is in each a responsible Committee of Managers, and a paid superintendent, with one or more assistants, the latter being usually chosen from among the boys. In no case do the committee receive any benefit from the undertaking, the profits (if any) which remain after paying the working expenses being devoted to the benefit of the boys or to the improvement or enlargement of the establishment. On the other hand, if there is a deficiency it is met by voluntary subscriptions.

* It should be mentioned that there is in London a Roman Catholic Shoeblack Society, which was established in 1857, and is managed by the Society of St. Vincent de Paul. There is no antagonism or ill feeling between this society and the Ragged School Shoeblack Society; but as it is managed on a different system, and is in no way associated with them, it is not included in the present claim.

Names.

RAGGED SCHOOL SHOEBLACK SOCIETY —*cont.*

The boys employed, who are from 12 to 18 years of age, are taken from the poorest class in London, and are usually recommended by the master of some ragged school. The money earned is divided every day in the following manner. Each boy receives sixpence a day whatever he earns, and in addition one-third of all his earnings above sixpence; another third is laid by for him as a savings fund, and is called his "bank;" and the remaining third is retained for the working expenses of the society. Thus, if a boy's earnings for the day are 3*s.* 6*d.*, that sum is divided as follows:—

	s.	*d.*	*s.*	*d.*
Boy's allowance - -	0	6	1	6
Boy's share of earnings -	1	0		
Boy's bank - - -			1	0
Society's share - -			1	0
			3	6

So long as the boys remain in the society the money laid by for them in their bank is applied, when required, in providing them with clothes, and in some cases they pay a share of their uniform and implements out of it. When they leave the employment of the society the remainder of their bank is expended in apprenticing them or providing them with outfits or otherwise for their benefit.

Most of the boys, on leaving the societies, obtain situations in London; but many enter the army and navy, and a few emigrate to the British colonies or the United States of America. In the case of emigrants, their bank money is applied towards their outfit or passage money. If the money is not wanted for any immediate purpose it is usually paid into one of the Post Office Savings Banks in the name of the boy, or of a trustee for him.

If a boy stays long in a society, and is careful, his bank money sometimes amounts to a considerable sum. There are at present two boys in the Central Society, each of whom has more than 35*l.* thus saved up. But these are exceptional cases; it seldom amounts to more than 6*l.* or 7*l.*, and the average sum for each boy is about 1*l.* 10*s.*

In the evenings, after their return from work, the boys receive instruction from a schoolmaster at the society's house; and on Sundays they are all expected to attend their Sunday schools.

Each boy remains at the same station for three days, and is then removed to another. In this manner all have a fair chance, emulation between them is encouraged, and a check is placed upon those who are disposed to be dishonest, inasmuch as the value of each station is well ascertained.

As the stations differ in value, the boys in each society are classed in divisions, the highest division occupying the best stations. They are placed at first in the lowest division, and their diligence and good conduct are rewarded by promotion to a higher one. Medals and other prizes are also given to the most diligent every month. Misconduct is punished by degradation to a lower division, suspension from work, and ultimately by dismissal. Smaller offences are punished by fines.

Some of the boys who are orphans, or who have homes from which it is desirable to remove them, lodge at the houses of their respective societies, for which they pay a small sum, usually 1*s.* a week. The number of boys so accommodated at each society is given in the table. The others lodge with their parents or relations.

The societies have been established without any assistance from the Legislature, and they enjoy no monopoly of the occupation of shoeblacking in the streets, their success depending upon the regularity and good conduct of the boys and the manner in which the work is done. They cannot, however, occupy stations within the City of London without the consent of the corporation, and where stations have been assigned them they are protected in the use of them by the police.

A very cordial feeling exists between the boys and the committee of the society by which they are employed, and they all

Names.

RAGGED SCHOOL SHOEBLACK SOCIETY —*cont.*

appear to understand that the regulations by which they are governed have been devised for their benefit.

The following are the total amounts of the boys' earnings in all the societies from the commencement of the first institution to the close of the year 1865, showing a regular progressive increase:—

		£			£
For the year	1851	650	For the year	1859	4,548
,,	1852	760	,,	1860	4,647
,,	1853	899	,,	1861	4,665
,,	1854	1,443	,,	1862	6,222
,,	1855	2,270	,,	1863	6,423
,,	1856	2,081	,,	1864	6,563
,,	1857	3,227	,,	1865	7,021
,,	1858	4,308	,,	1866	7,839

19th January 1867. MARTIN WARE, jun.

N.B.—The numbers given in the following table were furnished by the secretaries of the various societies.

THE RAGGED SCHOOL SHOEBLACK SOCIETIES OF LONDON.

Name of Society.	When established.	Colour of Uniform.	Average No. of Boys.	No. lodged the Home.	Earnings for One Year. (1866.)	Amount of Boys' "Bank" at End of Year.	Address of Office.	Name of Corresponding Secretary.
					£ s. d.	£ s. d.		
Central	March 31, 1851.	Red	65	6	1,895 16 7	150 9 4	29, Ship Yard, Temple Bar.	Martin Ware, jun.
East London	July 31st, 1854.	Blue	50	4	1,564 3 1	73 9 1	4, Mansel Street, Whitechapel.	Samuel Wise.
South London	Nov. 22, 1854.	Red	42	12	1,023 0 1	60 1 0	155A, High Street, Borough.	Joseph Rockley.
North-west London.	May 23, 1857.	Red and Black.	49	35	1,249 9 9	50 12 0	241, Marylebone Road.	George Hanbury.
West London	June 2, 1857.	Purple	29	—	537 9 7	14 4 0	Palmer's Passage, Westminster.	Howard Martin.
Islington and North London.	Oct. 26, 1857.	Brown and Red.	36	22	1,283 0 5	73 8 0	20, Church Street, Islington.	E. J. Tabrum.
Union Jack, Limehouse.	1858	Blue	15	15	286 13 3	3 11 7	Mitre Buildings, Three Colt Street, Limehouse.	Burnett Tabrum.
			286	94	7,839 12 8	425 15 4		

Names.

ROYAL CORNWALL POLYTECHNIC SOCIETY.

1. Plan and section of hall.
2. Statement of premiums awarded by the society.

ROYAL SOCIETY FOR THE PROTECTION OF LIFE FROM FIRE.

1. Plain directions for aiding endangered persons to escape from buildings on fire.
2. Annual report of the society, 1866.
3. Rules for conductors.
4. Cash statement of the Fire Escape Conductors Sick and Provident Funds, and Volunteer Band account.

Names.

SANDWELL TRAINING HOME.

1. A general prospectus.

SANDWELL, NEAR BIRMINGHAM.

Visitor.—The LORD BISHOP OF LICHFIELD.

Presidents.—The EARL AND COUNTESS OF DARTMOUTH.
Chaplain.—Rev. F. WILLETT, Incumbent of All Saints, Westbromwich.
Resident Superintendent.—MISS SELWYN.

Lord Dartmouth has given this spacious and admirably-situated residence to be held freely, during his lifetime, as an institution comprising the following objects:—

1. A home where ladies living in straitened circumstances, but with incomes of not less than 50*l.* per annum, may be received on payment of a small sum for their board. Terms for weekly boarders, 1*l.* 5*s.*; per annum, 35*l.*; Chaplain's fund, 2*l.* per annum.

2. A school in which the daughters of clergymen, and of other gentlemen of limited income may receive an education suitable to their station in life, and which they might otherwise not be able to procure. Terms for orphans and for two sisters, 20*l.* and 25*l.* each; all others, 30*l.*

3. A home for young governesses when not engaged in situations or during the temporary absence of their pupils, and who may be willing, during their stay in the institution, to render assistance in the educational department. Terms, 10*s.* weekly; or 20*l.* if placed as "governess pupils" for one year.

4. A training institution for boys and girls.—The girls to be fitted for the duties of domestic servants. The boys to be fitted for the duties of pages, gardeners, carpenters, and farm labourers. Terms for girls 5*s.* during one year only; orphan girls, 4*s.*

The girls are employed in attending upon all the ladies resident in the home.

The boys are lodged in the out-buildings, are employed in gardening and performing various in and out-door duties, and are instructed daily in an evening school. Terms for orphan boys, 5*s.*; others, 6*s.* weekly.

5. A home for young servants (between the ages of 15 and 25) in the intervals of their engagements, or when unable from any cause to return to their situations. They are required to assist in instructing the younger girls in their duties. Terms, 5*s.* weekly.

Further information as to details can be obtained by applying at the office of the Sandwell Training Home, 24, Bennett's Hill, Birmingham, on every Monday, Wednesday, or Friday, between the hours of 12 and 3, or by letter to the Lady Superintendent, enclosing a large stamped and addressed envelope.

2. Prospectus of "Home for Ladies."

I.—HOME FOR LADIES.

Terms and Regulations.

No lady can be admitted as a permanent inmate until she has spent one month in the institution as a visitor, and it has been ascertained that her stay is likely to be agreeable to herself as well as beneficial to the institution. Visitors to pay in advance, at the rate of 25*s.* per week.

1. For every lady occupying a room to herself, 35*l.* per annum, payable quarterly in advance. For two sisters, or other ladies engaging a room together, 30*l.* per annum each, payable quarterly in advance.

2. For every lady engaging a room for a shorter period than three months, 25*s.* weekly, payable in advance.

3. For every lady engaging a room for the term of three, four, five, or six months, the sum of 3*l.* 10*s.* per month, payable in advance; and for every lady engaging a room for more than six months, but less than 12, the sum of 3*l.* 5*s.* per month, payable in advance.

4. For every lady occupying a room for 12 months, the further sum of 2*l.* per annum, and for every lady occupying a room for a shorter period, the sum of 1*s.* per week towards the fund for the maintenance of the chaplain of the institution, such fund being specified as the chaplain's fund.

5. Ladies above 60 years of age cannot be received for a longer period than three months, and must be accompanied by daughters or other relatives, who will undertake the care of their health.

6. Every lady intending to remain three or four months must be provided with two pairs of sheets, 12 towels, and two silver or plated forks and spoons.

7. Before the admission of any lady, testimonials will be required as to her family and connexions, previous occupation, and personal character.

8. Every lady is expected to select some one branch of useful occupation connected with the objects of the institution, and to employ herself therein at the time allotted for such occupation.

9. Every lady is expected to attend morning and evening prayers, unless prevented by illness or other unavoidable cause.

10. Washing, wine, and bedroom fires are extras.

11. Ladies resident in the house may receive visitors on Tuesdays and Fridays from 3 o'clock till 6 in summer, and from 2 o'clock till 5 in winter. Visitors partaking of dinner to pay 2*s.* 6*d.* each, tea or breakfast, 1*s.* Visitors sleeping in the house to pay 3*s.* a night.

12. All articles broken or injured to be replaced or repaired at the expense of the person causing the accident.

Names.

SANDWELL TRAINING HOME—*cont.*

13. No unusual orders must be given by any visitor or resident to any of the servants of the institution, except by permission of the superintendent or her deputy.

14. No meals can be supplied to any lady in her own apartment, but any lady may take tea in her own apartment at her own expense.

15. Every lady is expected to see that her room is properly arranged, and *kindly and gently* to instruct the girl who has charge of it in the best method of keeping it in order; and should any girl prove disobedient or negligent, to report her conduct to the superintendent only.

Hours.

Prayers—Morning, 8·30 a.m.; Evening, 8·30 p.m.	
Breakfast - -	8 a.m.
Dinner - -	1 p.m.
Tea - - -	5 p.m.
Supper - - -	9 p.m.

The post comes in at 9·30 a.m. and 4 p.m., and goes out at 6 p.m.

LÆTITIA FRANCES SELWYN, superintendent of Sandwell, agrees to find and provide with suitable board aad lodging for the term of months, according to the annexed terms and regulations; in consideration whereof, the said agrees to become a resident of Sandwell aforesaid for such term of months, and to pay the said superintendent the charges specified in such terms and regulations during her stay in the said institution, and to conform, in all respects, to the said regulations.

Dated the day of , 186 .

Signed _____

3. Prospectus of "School for the Daughters of Clergymen and others of Limited Income."

II.—SCHOOL FOR THE DAUGHTERS OF CLERGYMEN AND OTHERS OF LIMITED INCOME.

Terms and Regulations.

I. For each pupil 30*l.* per annum, payable quarterly in advance; such terms to include board, washing, and general instruction, the latter comprising French language and literature, geography, astronomy, writing and arithmetic, music and elementary drawing, with all other usual branches of a sound English education.

II. For each pupil the additional sum of 40*s.* per annum towards the chaplain's fund; or if the pupil remains six months only the sum of 25*s.*

III. Lessons on the following subjects from masters attending the establishment are extras, and are charged at the following rates:—

	£	s.	d.	
Drawing - - -	6	6	0	per annum.
Music - - -	6	6	0	,,
Dancing and drill - -	4	4	0	,,
German - - -	4	4	0	,,

IV. No pupil can be received for a shorter period than six months, and a quarter's notice or a quarter's payment is required previous to the removal of any pupil.

V. The summer vacation commences the 3rd Wednesday in June, and ends the last Wednesday in July. The winter vacation commences the 3rd Wednesday in December, and ends the last Wednesday in January. All pupils are expected to return on the appointed day.

VI. No visitors to pupils are allowed, nor are pupils allowed to visit friends except with the express consent of the Principal.

VII. A medical certificate of general good health must be sent with every new pupil.

VIII. The dress of the pupils must be neat and simple, and in winter they must have a sufficient supply of warm clothing and strong boots and overshoes; no large boxes or hair trunks must be sent, and no white dresses or skirts are allowed in winter. A bonnet for Sundays is indispensable.

IX. All pupils must be provided with a silver fork and spoon, two pairs of sheets, and six towels, which will be returned on their leaving school.

Pupils will be met on arriving at the railway stations, and must wait in the waiting room on the arrival platform.

4. Prospectus of "Home for Young Governesses."

III.—HOME FOR YOUNG GOVERNESSES.

A limited number only can be received, and candidates will be admitted only as vacancies occur.

Terms and Regulations.

I. For every lady the sum of 10*s.* per week, payable in advance, and also the sum of 1*s.* per week towards the chaplain's fund. These terms include board and lodging, but not washing.

II. Every lady will be expected during her stay in the institution to assist the Principal in the educational department.

Names.

SANDWELL TRAINING HOME—*cont.*

5. Prospectus of "Training Institution for Boys and Girls."

IV.—TRAINING INSTITUTION FOR BOYS AND GIRLS.

BOYS.

Terms and Regulations.

1. For each boy the sum of 6*s.* per week, payable in advance. If the boy has lost both parents, 5*s.* per week, payable in advance.
2. No boy under twelve years of age can be received.
3. No deserted or illegitimate boy can be received.
4. No boy afflicted with any infectious disease or bodily infirmity can be received. A medical certificate must be sent before any boy can be admitted.
5. Each boy coming from a school must be provided with a certificate of good conduct from the master or mistress of such school.
6. No boy can be removed before the expiration of two years from the date of his admission unless with the consent of the superintendent.
7. Each boy must be provided with a Bible and Prayer Book, and also with the following articles, viz.:—

2 suits complete (one cloth and one working dress).
4 shirts.
2 night shirts.
6 pair of socks or grey stockings.
2 pairs of strong nailed boots.
6 pocket handkerchiefs.
2 cloth caps.
Bag, with comb, brushes, &c.

8. All clothing must be packed in bags or small deal boxes. No hair trunks are allowed.
9. Three days' notice must be given before the arrival of any boy, and the accompanying Form filled up and transmitted to the superintendent.

GIRLS.

Terms and Regulations.

1. For each girl the sum of 5*s.* per week, payable in advance. If the girl has lost both parents, 4*s.* per week, payable in advance.
2. No girl under fourteen years of age can be received.
3. No deserted or illegitimate girl can be received.
4. No girl afflicted with any infectious disease or bodily infirmity can be received. A medical certificate must be sent before any girl can be admitted.
5. Each girl coming from a school must be provided with a certificate of good conduct from the mistress of such school.
6. No girl can be removed before the expiration of two years from the date of her admission unless with the consent of the superintendent.
7. All girls who conduct themselves well during their first year at Sandwell are free during the second year; and, at its expiration, are entitled to an outfit for service.
8. Each girl must be provided with a Bible and Prayer Book, and also with the following articles, viz.:—

3 print frocks.
1 Sunday frock.
2 flannel petticoats.
2 lindsey or other upper ditto.
6 pairs of grey or brown stockings.
2 night gowns.
4 shifts.
2 pairs of strong boots.
Bag, with comb, brushes, &c.
Bonnet.
Cloak or shawl.
Linen sun bonnet.
6 pocket handkerchiefs.

9. All clothing must be packed in bags or small deal boxes. No hair trunks are allowed.
10. Three days' notice must be given before the arrival of any girl, and the accompanying Form filled up and transmitted to the superintendent.

The Sandwell omnibus is usually in Birmingham on Wednesday, which day is therefore most convenient for fetching boys and girls; and 1*s.* 6*d.* each is charged for conveying them to Sandwell, a distance of five miles.

Boys and girls arriving at stations, must wait in second-class waiting rooms till called for.

6. Prospectus of "Home for Young Servants."

V.—HOME FOR YOUNG SERVANTS.

Terms and Regulations.

1. For each servant the sum of 5*s.* per week during her residence in the home, payable in advance.
2. Each servant will be required to assist in the domestic service of the house, and in instructing the younger girls in their duties.
3. No servant can be admitted if less than 15 or more than 25 years of age, and every applicant will be required to satisfy the superintendent as to her fitness for admission.

7. Ninth report.

SANDWELL.—NINTH REPORT, 1865.

During the past year the various objects of the institution have been successfully carried on. Eight ladies (on an average) have resided continually in the home, and have assisted in the different departments.

Names.

SANDWELL TRAINING HOME—*cont.*

The school for the daughters of clergymen and gentlemen of limited means has increased in efficiency. The Inspector appointed by the "Schools Inquiry Commission" visited Sandwell, December 14th, 1865, and reported most favourably of the arrangements and of the general demeanor of the pupils as well as of the progress in their education. The numbers vary from 20 to 25 annually.

Fourteen girls have been admitted into the Industrial School during the past year, and the accounts received from ladies who have engaged girls formerly trained at Sandwell have been highly satisfactory. The demand for the girls far exceeds the supply, no girl being allowed to leave till she has been two years under training. 17 girls are now in the home.

The Boys' Industrial School is about to be reorganized, as soon as a competent master can be obtained. This school will henceforth be superintended by the chaplain, the Rev. F. Willett.

During the year 1865, the services in the chapel have been performed partly by the Rev. F. Hare, and partly by the Rev. T. B. Stevenson; but an arrangement has now been made with the Rev. F. Willett, the recently appointed incumbent of All Saints', Westbromwich, who is now (*ex officio*) chaplain of the institution, and who has undertaken to provide for the religious instruction of the inmates; either he or one of his curates will, in future, perform Divine Service in the chapel, the expense of an additional curate being partly defrayed by the funds of the Institution. This arrangement has received the sanction of the Visitor, the Lord Bishop of Lichfield.

Ten of the young people were confirmed by the Bishop, at the Old Church, Handsworth, in October 1865. The average number of communicants in the chapel was 19, and the offertory collections amounted to 7*l.* 16*s.* 11*d.*

Some very distressing facts having been disclosed as to the demoralized state of the girls sent out to service from the Westbromwich Union Workhouse, a committee was formed, and two of the ladies of Sandwell invited to join it, in order to assist in devising measures for their improvement. The object of Sandwell being to train the young at the most critical period of life, it was felt that these now neglected girls should, if possible, be brought within the sphere of its influence; and it is hoped that from among them some girls may be selected who, under careful management, may hereafter become useful servants.

The land cultivated has yielded—

300 bushels of mangold wurtzel;
90 bushels of swedes;
20 bushels of parsnips;
20 bushels of Belgian carrots, for horses.

The potato crop was far more abundant than the last year, but a part suffered from disease, leaving, however, amply sufficient to supply the institution. The crop of other vegetables was also abundant, and the sum realised by the sale of the surplus farm produce was 75*l.* 3*s.*

The following table will show the number of persons who have been received at Sandwell since its establishment, April 23rd, 1857:—

In the First Three Classes.

Widows	12
Infant orphans	18
Single ladies	14
Governesses	17
Pupils	65—126

In the Two Last Classes (Industrial Department).

Girls	199
Young servants placed in the home	16
Boys	60—275
Total	401

PRESENT STATE of the INSTITUTION, EASTER, 1866.

5 resident ladies,
2 governesses.
26 pupils (including 1 "governess pupil").

Female Servants.

Matron.
Assistant matron (acting as schoolmistress).
Needlewoman and dressmaker.
Cook.
Laundress.
Parlour maid (employed also in attending on a lady).
16 young girls training as servants.
1 ditto servant placed in the house for improvement.

Men Servants.

Butler.
Coachman.
Carpenter.
3 farm labourers.
2 boys.

Total - - - 64

Names.

SANDWELL TRAINING HOME—*cont.*

SALE of FARM STOCK and PRODUCE in 1865.

Stock Sold.

	£	s.	d.
1 fatted cow	17	0	0
3 ditto calves	12	7	6
1 ditto pig	9	0	0
16 porket pigs	15	11	0
20 couple of ducks	5	0	0

	£	s.	d.
2 milch goats	1	10	0
Eggs	5	15	4

Sale of Vegetables.

Potatoes for seed and use	5	8	7½
Peas, turnips, &c.	1	0	0

PRESENT STOCK on the FARM, 1866.

4 cows and 2 calves.
13 pigs.
10 sheep and 16 lambs.
2 horses.
3 donkeys.
2 milch goats.

SLOUGH MECHANICS' INSTITUTION.

1. A report of the Mechanics' Institution.
2. Statement of receipts and expenditure.
3. Rules of the institution.

SONS OF THE CLERGY.

1. Report for 1865.

TYNE DOCKS INSTITUTION.

1. The case of the Institutions of Tyne Dock, &c.

The CASE of the INSTITUTIONS of TYNE DOCK, in the PARISH of WESTOE, in the BOROUGH of SOUTH SHIELDS, in the COUNTY of DURHAM, ENGLAND.

In the year 1859 a dock, styled the "Tyne Dock," constructed by the North-eastern Railway Company, and situate in the parish of Westoe, in the borough of South Shields, in the county of Durham, was opened, chiefly for the exportation of coals and coke from the extensive coal-fields of Durham and Northumberland.

Previous to the construction of this dock the population of the immediate locality of the site was exceedingly small—under 300; but since the opening of the dock the population has gradually increased, and the estimated number is now 3,000.

In connexion with the dock the North-eastern Railway Company have establishments for building and repairing locomotive engines, rolling stock, and dock machinery; and besides the workmen employed in such establishments, and also in the shipment of coals and coke, a large number of labourers is engaged in the import trade of the dock, which import trade has been extensively developed within the past four or five years.

The aggregate number of workmen employed by the North-eastern Railway Company and merchants at or in connexion with the dock is 1,000; and they are composed of engine-drivers, firemen, mechanics, coal teamers, coal trimmers, and labourers.

To carry on the operations of the dock the company were obliged, from time to time, to bring workmen from other districts. Many of the men thus transferred were from towns replete with educational and social appliances; and there being no institutions in the locality of the dock having for their object the intellectual and moral well-being of the people the men—especially those with families—felt the change very much.

In the course of time, however, the workmen, without any extraneous assistance, established a mechanics' institute and reading room, a temperance society, a penny savings' bank, a Bible society, a building society, and, lastly, a day school.

The details of the working and results of each of these institutions may be stated as under:—

First.—The mechanics' institute and reading room (belonging to the workmen) were established in 1859. The number of members averages 100. The library consists of 500 volumes of books, chiefly upon history, science, biography, travels, and light literature, which have been well circulated amongst the members. Evening classes for reading, writing, and arithmetic have been held during the winter seasons with satisfactory results. Lectures on various subjects have also been delivered in the institute.

Names.

TYNE DOCKS INSTITUTION—*cont.*

Second.—The Temperance Society, founded also in 1859, has been productive of much good. The members enrolled number 280, and a large portion of these acknowledge to have been directly benefited by this society. Amongst the latter were men of intemperate and improvident habits, caring neither for themselves nor for their families, but who, through the influence of this society, are now respectable and useful inhabitants, harmoniously co-operating with the members of the various institutions of the locality.

Third.—The Penny Savings Bank, inaugurated in December 1859, is supported by all classes of workmen employed at the docks, and is used not only as a means of acquiring capital, but for providing funds to meet the expenses of families of a special and exceptional nature. The transactions since the formation of the bank have been exceedingly numerous, and the totals for each year are as follow :—

—	Receipts.	Withdrawals.
	£ s. d.	£ s. d.
For the year 1860 -	223 18 2	47 3 10
,, 1861 -	163 5 10	105 17 6
,, 1862 -	250 19 9	138 13 3
,, 1863 -	245 0 7	247 2 5
,, 1864 -	161 3 0	178 0 8
,, 1865 -	222 12 10	184 2 10
,, 1866 -	139 15 5	180 0 2
Total for 7 years -	1,406 15 7	1,081 0 8
Average per annum	200 19 4	154 8 8

In may be necessary to observe that many amounts, accumulated in small sums, have been withdrawn from the savings bank, to be invested in building and other societies in which greater profits are realized.

Fourth.—In 1864 a branch of the British and Foreign Bible Society was established. A considerable number of Bibles has been issued at cost price to the workmen and inhabitants of the locality, and also to sailors of all nations frequenting the dock, for whom the Scriptures, printed in various languages, are provided.

Fifth.—The building society was organized in February 1865, with the object of enabling the workmen, by fortnightly payments, to obtain dwelling houses for their own use—in fact, to become their own landlords; and this, in many instances, is being accomplished.

A copy of the first year's report is appended hereto, and on reference to that report it will be seen that 666½ shares of 60*l.* each, representing a total capital of 39,990*l.*, were subscribed for. During this, the second year, 180 additional shares have been taken up, and this society is in a most flourishing condition.

Sixth.—The day school was opened on the 1st of October 1866 by the workmen, for the education of their children, and is held in the Mechanics' Institute, the only building in the locality at present available. The number of children attending is 260, and this number will be greatly augmented as soon as proper school accommodation is provided. Hence the urgent necessity for buildings adapted to meet the enlarged requirements of the increasing population.

In view of this urgent necessity for enlarged school accommodation the workmen have determined to erect spacious buildings for boys, girls, and infants; the railway company, their employers having no legal powers to grant money in aid of educational purposes. The estimated cost of such buildings, including a master's residence, is 2,500*l.*, and towards this sum the workmen have resolved to raise 300*l.*, of which the greater portion has

Names.

TYNE DOCK INSTITUTION—*cont.*

already been subscribed. The railway shareholders (in their individual capacity) have also given a similar amount. Friends of education have subscribed 500*l.*; and the railway company has granted an eligible site, measuring 2,200 square yards, for the buildings and play-grounds.

The plans are being prepared, and the workmen calculate on the buildings being erected before the close of the present year. The schools have been placed under Government inspection, and it is fully expected they will, after the preliminary expenses are met, be self-sustaining.

All the institutions above mentioned have been originated and carried on entirely by the workmen, amongst whom the greatest harmony has been manifested in the working of each; and the chief aim of the men promoting the various societies has always been the material, moral, and intellectual well-being of themselves, their families, and the inhabitants of the locality generally; and in this respect success has followed their labours.

In harmony with all these efforts we might almost say, as a natural result, that the special organization for the purpose of thorough education, to which we now most respectfully beg to call your attention, has in a remarkable manner developed not only the results of previous efforts and the harmony they have engendered, but in a wonderful degree stimulated the sympathy and co-operation of those by whom this self-reliant population is surrounded.

With pride and pleasure we find amongst the contributors to the educational movement the statesman, the merchant, and the trader of every degree, and in each of these instances without regard to or limit of special creed or profession.

On behalf of the united committees we beg to submit this statement for the consideration of the International Jury.

We have the honour to remain, Sir,

Your most obedient Servants,

(Signed) JAMES ANDERSON, Mayor,
JOHN STRACHAN, Deputy Mayor,
Borough of South Shields.

(Countersigned)
THOS. SALMON,
Town Clerk, South Shields.
ROBERT THUBRON, Secretary.

2. Prospectus and balance sheets of Tyne Docks Penny Bank.
3. Book of Tyne Docks Penny Bank.
4. Prospectus of Tyne Docks British Schools.
5. Rules of Tyne Docks Literary Institution.
6. Prospectus and report of Tyne Docks Permanent Benefit Building Society.

ULSTER SOCIETY FOR PROMOTING THE EDUCATION OF THE DEAF, DUMB, AND BLIND.

1. View of Institution.
2. Reports of the Institution.
3. Book of information concerning the Institution, containing specimens of alphabets for the deaf, dumb, and blind.
4. Addresses, &c. relative to the Institution.

WORKING WOMEN'S COLLEGE.

1. Prospectus.
2. Programme of classes.
3. Address at the opening of the college by Mrs. F. R. Malleson.
4. First and second annual report.

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The following persons have sent in information, but have not answered the questions proposed for candidates by the Royal Commission.

1. THOMAS E. BOWKETT; returns relating to the Bowkett Building Societies.
2. J. F. BORSCHITZKY; concerning his new method of teaching singing.
3. G. COLES; originator of the South-east Industrial Exhibition.

GENERAL INDEX.

Abbotts Ann Provident Club.—Held at Andover, Hants; 355.—Members, 217 men, 265 women, and 294 children; 356.—Secretary; 357.—Formed by the rector; 359.—In 1831; 360.—To provide against sickness and old age; 357 and 379.—Never suspended; 361.—Managed by the committee; 373.—Income, 354*l.* 9*s.* 10*d.*; 374.—Management expenses, 32*l.*; 375.—Number of paid officers; 376.—Mode of paying them; 377.—Amount paid for sickness since 1862, average 50*l.* a year; 383.—Information on which claim for new Order of Reward is based; 384.—Appendix; 405.—Papers sent in with returns, viz.: Annual statement of accounts, also accounts of Wilts Friendly Society; 405.—Certificate signed by C. Dodson, Thos. West, and Rev. W. Capes; 403.

Aberdeen Female School of Industry.—Held at Guestrow, Aberdeen; 355.—Proprietors; 356.—Secretary; 357.—Formed by several persons; 359.—In 1842; 360.—To educate children of the destitute and dangerous classes; 357 and 389.—Never suspended; 360.—190 in institution; 361.—Girls must be seven before admitted, and are taught to read, &c.; 362.—Not remunerative; 364.—No special assistance, but supported by subscriptions; 365.—No monopoly; 365.—Managers; 373.—Income, 400*l.* to 500*l.*; 374.—Six paid officers; 376.—Salaries; 377.—Condition of admission is abject poverty; stay about three years; 378.—Weekly cost per head, 1*s.* 10*d.* to 2*s.*; 378.—Girls get an outfit on leaving for a situation; 378.—Yearly cost for five years; 379.—Arrangements for sickness, education, religious instruction, recreation, and temperance; 380.—Control of funds under secretary and treasurer; 384.—Further information concerning the work of the institution; 385.—How fulfilling the conditions of the new Order of Reward; 398.—Appendix; 405.—Copies of reports and rules; 405.—Certificate signed by Alex. Nicol, Alex. W. Brown; 403.

Aberdeen Sailors' Home.—This home was opened in 1851, but has been since closed; 337.

Abstract of Returns sent in for the New Order of Reward; 34.

Adams, T., and Co., Lace Manufactory at Nottingham; 37.—Full address; 35.—Proprietors; 36.—Secretary; 37.—Formed by T. Adams; 38.—In 1830; 39.—Works never suspended; 40.—85 males and 332 females employed; 41.—Apprentices serve seven years; 44.—Five per cent. of females are married; 45.—No special rules to enable them to attend their duties, as their employment is exceptional; 46.—The establishment has been remunerative; 48.—No Government assistance; 49.—No monopoly; 50.—The company is joint-stock; 52.—Responsibility limited; 53.—Capital, and how divided, 54.—Hours of work daily 9½; 56.—Wages of females average 10*s.*, porters 20*s.*; 57.—All piecework where possible; 58.—Works annually cleansed, 62.—No co-operative society; 64.—No system of truck, all cash payments; 66.—Evening schools at employers' expense; 74.—Divine service every morning; schools every evening but Saturday; 78.—Cricket and other recreative clubs, 81.—No special arrangement for temperance; 85.—Penny bank; 87.—Been in operation nine years; 88.—149 depositors; 89.—Number having life policies not known; 90.—Nor number possessing houses; 91.—None join trades unions; 93.—Unions have had no influence on wages, hours, &c; 94-98.—No strikes; 95.—No hostile combinations; 99.—No effect on poor rate; 99.—Appendix; 104.—General statement printed in full, giving an account of the rise of the establishment; 104.—Service in the chapel daily, attendance optional; always crowded; high tone of morality among work-people; educational arrangements; all can be educated if they wish; medical attendance to sick; 105.—Penny savings bank; no library required, as plenty in Nottingham; cricket club; great punctuality secured by an annual reward; great precautions taken to secure the safety of young women; 106.—The workpeople reciprocate the good feeling; table showing the number of years the workpeople have been employed; reference to this establishment in Dr. Blackie's "Better days for the Working People;" 107.—Documents sent in with these returns, viz.:—Friendly Addresses to those employed; No. 6,

Adams, T., and Co.—*continued.*
the "Churchman's Advocate and Review;" "A Model Warehouse;" "Heads and Hands in the World of Labour;" and a view and plan of the warehouse; 108.—Certificate signed by F. L. Thackeray, mayor of Nottingham; Wm. Windley, J.P.; and Rev. F. Morse, vicar of Nottingham; 102.

Admission of Inmates to Institutions, &c.—See Conditions of Receiving, &c.

Ages of Persons employed in Labour, restrictions as to.—See Restrictions.

Ages and Number of Persons employed in the various Institutions.—See Number of Persons, &c.

Agricultural and Manufacturing Pursuits, how combined.—See Combination.

Agricultural Co-operative Society.—See Assington.

Agricultural Society.—See Ballinasloe.

Akroyd and Sons, Manufacturers of Worsted Yarns, at Halifax; 37.—Full address; 35.—Proprietor; 36.—C. N. Wilkinson, secretary; 37.—Commenced by J. Akroyd; 38.—About 1790; 39.—Never suspended; 40.—1,585 males and 2,411 females employed; 41.—None employed under eight years of age; 44.—No restrictions as to education or apprenticeship; 44.—Married females leave at meal times 10 minutes before the rest; 46.—No protection necessary for young females who have to leave home; 47.—Remunerative; 48.—No Government assistance; 49.—No monopoly; 50.—The firm is vested solely in J. Akroyd, M.P.; 52.—Unlimited; 53.—Hours of labour daily 10½; Saturday 7½; 56.—Piece work entirely, and occasional bonuses; 58.—123 houses have been built for workpeople; 59 (see plans).—Rent 1*s.* 9*d.* per week; 61.—Sanitary arrangements in works; cleansing of dwellings left to tenants; 62.—Co-operative establishments; Haley Hill clothing club; Haley Hill Shed tea and coffee kitchen; dining shed and cooking kitchen at Copley; 64.—The employers subscribe and find rooms for these establishments; 66.—No system of truck; all cash payments; 66.—Sick fund and medical arrangements; 67.—No statistics as to deaths, &c.; 72-3.—Educational arrangements; schools for boys, girls, and infants, and attendance; 74.—Religious instruction; 78.—Mental and physical recreative arrangements: literary and scientific society; mutual improvement society; working men's library; working men's club; choral society; recreative club; horticultural society; cricket club, &c.; 81.—No special arrangements for temperance; 85.—Penny savings bank; 87.—This has been established for 15 years; 88.—518 depositors in 1866, and 1,689*l.* 18*s.* 8*d.* deposited accounts; 89.—Not many workpeople have life policies; an attempt to start a working men's assurance society failed; 90.—Akroydon building associations; 91.—No workpeople belong to trades unions; 93.—Unions have not interfered with hours or wages; 94 and 98.—No strikes; 96.—Appendix; 108.—Documents sent in with returns: Regulations for weavers; views of houses (see plans at page 108); rules for relief societies; rules for working men's club; rules for Akroydon building association; handy book of the various institutions; 108.—Certificate signed by Rev. C. Musgrave, vicar of Halifax, and John Waterhouse; 102.

Akroydon, bird's eye view of, as built by Messrs. Akroyd; 108.

Allowances, money, to inmates at various institutions.—See Money Allowances.

Annual Income of Societies.—See Income.

Anti-mill Industrial Society.—See Hull.

Appendix, giving an account of the supplementary information sent in with each commercial return; 104–199.—Sent in with each building society; 229-247.—With each co-operative society; 275–301.—With each sailor's home; 325 to 344.—With each miscellaneous institution; 405–425.

Applications for New Order of Reward.—Method of examining and comparing, being a letter from the Imperial Commission, with enclosures; 16–22.

Apportionment of the Members of the Jury to the various Countries; 8.

Apprenticeships.—See Restrictions.

Arbitration and Conciliation for the Hosiery and Glove Trade.—See Board of.

Arrangements for Educating Workpeople, &c.—See Educational Arrangements.

Arrangements for Mental and Physical Recreation.—See Recreation.

Arrangements for Religious Teaching.—See Religious Teaching.

Arrangements for Temperance, and how availed of.—See Temperance.

Ashworth, E., and Sons.—Sent in returns, but withdrew them from publication.

Assington Farm of the Agricultural Co-operative Society.—Locality; 249.—Proprietor; 249.—Secretary; 250.—For improving the condition of the labouring classes; 250.—Originated by J. Gurdon; 251.—35 years ago; 252.—Never suspended; 253.—Persons employed, about 60; 253.—All employed must be labourers of Assington; 254.—Remunerative; 254.—Capital lent without interest by landlord; 255.—Rents paid by cottagers, 2*s.* 2*d.* a week; 258.—No arrangements for periodical cleansings; 258.—Co-operative society; 258.—No system of truck, all money payments; 258.—None have joined trades unions; 259.—Effect on poor rate; 260.—National school; 262.—Appendix; 275.—Papers sent in with returns, viz.: Extract from the "Co-operator" and balance-sheet of the storeshop; 275.

Assistance from Government, &c.—See Government.

Assurance.—See Life Assurances.

Average Yearly Profit, and how divided.—See Profit.

Ballinasloe District Agricultural Society.—Where situate; 355.—Secretary; 357.—Managers; 373.—Established by the guardians of the poor; 359.—In 1840; 360.—To improve the condition of the peasantry, and develop the resources of the soil; 357.—Means to attain this object by instruction, prizes, exhibitions, &c.; 390.—Short sketch of rise, progress, and development of the society; 391.—How fulfilling the conditions of the new Order of Reward; 398.—Admission by election and payment of subscription; 400.—196 members in 1866; 400.—Disputes settled by managing committee; 401.—Appendix; 405.—Papers sent in with returns, viz.: rules and annual reports of the society; 405.

Belfast Sailors' Home.—Where held; 302.—Proprietor; 302.—Secretary; 303.—Commenced by a number of Belfast merchants; 304.—In 1851; 304.—For the benefit of seafaring men; 303.—Never suspended; 304.—Five persons employed; 7,000 inmates received in 10 years; 305.—No restrictions for admission; 305.—Institution not self-supporting; 306.—No Government assistance; 306.—No monopoly; 306.—No co-operative society in connexion; 308.—An arrangement has been made for taking care of people's savings; 308.—Which has been in operation 10 years; 309.—Gross annual income and expenditure, 400*l.*; 310 and 311.—One paid officer; 311.—Gratuitous medical advice; visiting clergy; library; 314.—The committee control the accounts; 316.—Managers; 318.—Lodgings and board are given to the sailors; 319.—Short sketch of progress of home; 319.—Considered to have fulfilled the conditions of new Order by the immense good done to the sailors of all nations; 322.—Appendix; 325.—Copy of 11th report sent in with returns; 325.—Statistics and further information concerning use and progress of home; 339.—Certificate signed by Daniel Taylor and Henry Morney, M.D.; 324.

Benefit Building Society.—See Leeds.

Bessbrook Spinning Co.—Linen Works at Bessbrook, North Newry; 37.—Full address; 35.—Proprietors; 36.—Correspondent; 37.—Originated by John G. Richardson; 38.—In 1847; 39.—Never suspended; 40.—2,420 persons employed; 957 males and 1,463 females; 41.—Children under 13 years old work half-time; apprenticeships vary from three to seven years; 44.—Only about two per cent. of females are married; 45.—Married females are allowed a quarter of an hour longer at meals; 46.—Houses, with matrons to superintend them, are provided for the accommodation and protection of young females; 47.—The company has been remunerative; 48.—No Government assistance; 49.—No monopoly; 50.—Two partners; 52.—Unlimited responsibility; 53.—Not divided into shares: 54.—Labour, 10 hours a day; 56.—Wages, from 20*s.* to 30*s.*; 57.—Chiefly piece-work; 58.—280 comfortable cottages have been built by firm; 60.—Rent, 2*s.* 6*d.* a week; 61.—Sanitary precautions; the houses and works are whitewashed every year; 62.—There are two co-operative societies; 64.—Which are assisted by the firm; 66.—No system of truck, all payments are in cash; 66.—Sick fund; 68.—Statistics of births, marriages, and deaths; 72.—Average duration of workmen's lives not known; 73.—Educational arrangements; three schools have been built, and all work-people with children must send them; one penny a week deducted for each child, and paid to teacher; 75.—Religious instruction; 79.—Arrangements for mental

Bessbrook Spinning Co.—*continued.*
and physical recreation; library, improvement society, singing, and cricket clubs, &c.; 82.—Temperance arrangements; 85.—Savings' fund and bank; 87.—This has been in existence for 15 years; 88.—205 depositors: average deposits 25*l.*; 89.—About 12 have life policies for 100*l.* each; 90.—None possess houses, as all belong to Company; 92.—Some have joined trades' unions; 93.—Unions have had no influence on hours or wages; 94, and 98.—No strikes; 95.—No hostile combinations; 99.—Effect on poor rate; 99.—Certificate signed by Lord Clermont, James L. McCance, and Rev. Daniel Bagot, Dean of Dromore; 102.

Bianconi, C., originator of the car travelling system in Ireland.—Where situated; 355.—Proprietor; 356.—Secretary; 357.—Originated by C. Bianconi; 359.—In 1815; 360.—To facilitate travelling in Ireland; 357.—Never suspended; 360.—Conditions for those employed; courtesy, honesty, sobriety, &c.; 362.—No Government assistance; 365.—No monopoly; 365.—Appendix; 405.—Documents sent in with returns, viz.: Papers read by Mr. Bianconi in Dublin and Cork concerning his car travelling system in Ireland; extract from the "Times"; 405.—Certificate signed by Morgan J. O'Connell and Wm. C. Arotmagle (?); 403.

Birkbeck Institution.—Situate in Chancery Lane, London; 355.—Proprietors; 356.—Secretary; 357.—Instituted by G. Birkbeck and others; 359.—In 1823; 360.—To disseminate instruction among mechanics, &c.; 358.—Never suspended; 361.—1,006 members; 361 and 400.—No restrictions to admission beyond payment of subscriptions; 362 and 400.—Its financial position was at first flourishing, afterwards not so, as other similar institutions started and competed with it, but latterly it has become again flourishing; 364.—No special assistance; 365.—No monopoly; 366.—Birkbeck Building Society; 372.—Managed by a committee of members; 374.—Gross income in 1866 was 1,016*l.* 3*s.* 3*d.*; 375.—Annual expenses, 900*l.*; 376.—Three paid officers; 376.—Salaries; 377.—Admission by subscription; 378.—Cost per head per week, 4*d.*; 378.—Yearly cost for five years from 774*l.* to 1,492*l.*; 379.—Arrangements for education and recreation, which are the special objects of the institution; 381 and 383.—The committee of members controls funds; 384.—Sketch of rise and progress of the institution; 392.—Appendix; 409.—Papers sent in with returns: copy of prospectus of the Birkbeck Land and Building Societies; reports, rules and regulations, and prospectus of institutions; 409.—Certificate signed by J. Duke and Sir T. Musgrove, Bart.; 403.

Birth, &c., Rates. See Death Rates, &c.

Blackie, Dr.—His account of a visit to Messrs. Adams' establishment referred to; 107.

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